

Checklist of the freshwater fishes of Maranhão, Brazil (CLOFFBR-MA).

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Abstract

Maranhão is one of Brazil's 27 federative units, located in the Northeastern region of Brazil, being the second largest state in this region and the eighth largest state of Brazil, corresponding to about 3.9% of the national territory. In Maranhão, there are two of the main Brazilian biomes (the Amazon and the Brazilian Cerrado), as well as several transitional zone areas, which makes it extremely relevant in ecological, biodiversity and conservation terms. In addition to these two distinct biomes and the transitional zone areas, the state has a large coastal region, possessing transitions zones towards the interior, along this wide coastal region, and the aforementioned continental biomes. Despite this diversity of biomes and habitats, and rich hydrographic network, few studies on the freshwater ichthyofauna taxonomy and biogeography have been published for the state of Maranhão, when compared to other regions of Brazil. Therefore, the main objective of this study is to provide a list of all the known freshwater fish species that occur in the State of Maranhão, based on compilations of data already published. In addition to the species list, information on the occurrence of each species by hydrographic systems in Maranhão will be presented. We believe that with the publication of this list of species, an overview of the diversity of freshwater fish species that occur in the state will be achieved and the main knowledge gaps that need to be addressed in the future will be identified. Thus, it will be a solid contribution for future works on taxonomy, systematics, biogeography, new records and distribution, ecology, fisheries and species conservation. In total, our study registered 263 freshwater fish species occurring in Maranhão. Furthermore, it also showed that Characiformes is the most species-rich freshwater fish order in the state, followed by Siluriformes, Cichliformes, and Cyprinodontiformes. Regarding the species richness in the freshwater habitats in the state of Maranhão, the Mearim river basin exhibited the highest species diversity, followed by the Tocantins, Parnaíba, Itapecuru, and Munim river basins.

Resumo

O Maranhão é uma das 27 unidades federativas do Brasil, localizado na região Nordeste do país, sendo o segundo maior estado da região e o oitavo maior em todo o país, correspondendo a cerca de 3,9% de todo o território nacional. No Maranhão ocorrem dois dos principais biomas brasileiros (a Amazônia e o Cerrado), assim como várias áreas de zonas de transição de biomas, tornando o estado extremamente relevante em termos de ecologia, biodiversidade e conservação. Além desses dois biomas e das áreas de zonas de transição, o estado conta com uma ampla região costeira, com regiões de transição entre essa faixa costeira e cada um dos biomas no interior. Apesar da diversidade de biomas e habitats, e a rica rede hidrográfica, poucos estudos sobre a taxonomia e biogeografia da ictiofauna de água doce do Maranhão foram publicados, quando comparados a outras regiões do Brasil. Portanto, o principal objetivo desse estudo é apresentar uma lista com todas as espécies de peixes de água doce conhecidas que ocorrem no estado do Maranhão, a partir da compilação de dados já publicados. Além da lista de espécies, informação

sobre a ocorrência de cada espécie para os sistemas hidrográficos do Maranhão será apresentado. Acreditamos que com a publicação dessa lista de espécies, uma visão geral sobre a diversidade das espécies de água doce que ocorrem no estado será obtida, e as grandes lacunas de conhecimento que precisam ser solucionadas no futuro serão identificadas. Dessa forma, servindo de base para futuros estudos em taxonomia, sistemática, biogeografia, novos registros de distribuição, ecologia, recursos pesqueiros e conservação de espécies. No total, o nosso estudo registrou 263 espécies de peixes de água doce para o Maranhão. Além disso, a Ordem Characiformes, foi considerada a mais diversa no estado, seguida pelas ordens Siluriformes, Cichliformes, e Cyprinodontiformes. Sobre a riqueza de espécies presente nos diferentes sistemas hidrográficos do Maranhão, a bacia do rio Mearim apresentou a maior diversidade, seguida pelas bacias do rio Tocantins, Parnaíba, Itapecuru e Munim.

Introduction

Freshwater fish species diversity in South America and Brazil

Currently more than 60,000 living species of vertebrates are known, and fish species account for more than 50% of this enormous diversity, comprising more than 32,000 species (Nelson et al. 2016; Fricke et al. 2021). This great richness of fish species is also reflected in its morphological and ecological diversity, exhibiting a series of different body shapes and strategies of life (Nelson et al. 2016).

South America host the most diverse ichthyofauna in the world, comprising more than 9,000 freshwater and near shore marine water fish species, corresponding to more than 25% of all known fish species (Reis et al. 2016; Castro & Polaz 2020). Currently, the number of described freshwater fishes from South America is over 5,000 species (about one-third of all freshwater fishes of the world), whereas the South American marine ichthyofauna is just over 4,000 species (Reis et al. 2016). Therefore, the continent's freshwater ichthyofauna is richer than the marine. South American ichthyofauna evolved along the past 100 million years, with most groups emerging in the Gondwana and the adjacent Tethys Sea, while tropical rainforest and coral reef ecosystems were forming (Albert et al. 2011; Bowen et al. 2013; Bellwood et al. 2015; Reis et al. 2016).

Since the publication of the Check List of the Freshwater Fishes of South and Central America (CLOFFSCA) (Reis et al. 2003), an average of 104 new species have been described for South America per year (Reis et al. 2016). Recently, biodiversity estimates pointed out that the probable number of freshwater fish species occurring in the Neotropical Region (including South and Central America) is about 8,000 to 9,000 species (Reis et al. 2016), including described and still undescribed species, similar to the previous estimate by Schaefer (1998). The great proportion of undescribed species evidences that the South American freshwater ichthyofauna is still largely unknown. It is important to emphasize that freshwater habitats correspond to only a small proportion of surface water (less than 0.01% of the planet's water), but contain a disproportionately large number of fish species (freshwater fish represent between 20-25% of the world's vertebrate diversity (Stiassny & Raminosa 1994; Malabarba 1998; Nelson et al. 2016).

Brazil is the country occupying the largest area from both South America and the Neotropical region, with about 8.5 million km² (almost half of the Neotropical region), also concentrating the largest hydrographic networks in the Neotropical region (Buckup et al. 2007; Castro & Polaz 2020). The country alone, host an enormous freshwater fish diversity, comprising more than 3,000 species (about 55% of the freshwater fish species from the Neotropical Region) (Reis et al. 2003; Buckup et al. 2007; Albert & Reis 2011; Subirá et al. 2018; Castro & Polaz 2020), comparatively, a much greater diversity than the Brazilian marine ichthyofauna (Buckup et al. 2007). A curious fact is that about 70% of the Brazilian freshwater fish species are small-sized, with adults not reaching more than 15 cm of standard length (SL) (Castro & Polaz 2020). It is important to emphasize that small and medium-sized fish species are often neglected by conservation and fisheries policies.

Freshwater Biodiversity Crisis

The improvement on systematic, taxonomic, ecological and distribution knowledge of our fauna and flora is of fundamental relevance in the current context of Brazilian and world development, especially for the field of species conservation (Wilson 1985, 1992; Brooks et al. 2002; Singh 2002; Brook et al. 2006; Laurence 2007; Wheeler 2008; Costa et al. 2012; Pimm et al. 2014). Estimates indicate that about 90% of the species on our planet are still unknown to science. Therefore, our knowledge on morphology, ecology, behavior and geographic distribution of most of our biodiversity is limited (Wheeler 2008). This scenario becomes more critical, since natural environments, both in Brazil and in other world regions, suffer with accelerated destruction, mainly caused by human actions, with the consequent extinction and loss of species and populations, many of them still unknown to science (Wilson 1985, 1992; Brooks et al. 2002; Singh 2002; Brook et al. 2006; Laurence 2007; Wheeler 2008; Costa et al. 2012; Pimm et al. 2014).

This accelerated loss of biodiversity and degradation of natural environments generates a scarcity of data and comprehensive information related to our fauna and flora. This scenario becomes even more critical due to the low investment in non-applied (basic) taxonomy projects and in the formation of taxonomists; the lack of trained professionals and taxonomists; the lack of funding for the maintenance and expansion of the natural history collections; and the insufficient number of taxonomic studies on highly diverse groups and biodiverse areas. Such impediments are referred to as “the Biodiversity Crisis” (Singh 2002; Wheeler 2008). This destruction of natural environments and the extinction of species and populations have been greater, especially in aquatic freshwater environments, when compared to both marine and terrestrial realms (Darwall et al. 2018; Harrison et al. 2018; Reid et al. 2019). This scenario makes clear that freshwater environments, as well as the organisms inhabiting them, need urgent and special attention. Freshwater environments are much more vulnerable to anthropic actions than the other kinds of environments; a subject known as “freshwater biodiversity crisis” (Darwall et al. 2018; Harrison et al. 2018; Reid et al. 2019).

The destruction of habitats at accelerated rates makes the identification of new species, the compilation of regional inventories and checklists, and the taxonomic resolution of species and groups of species still under-studied or taxonomically confusing as priorities. Thus, allowing that suitable policies and actions related to the conservation of species and natural environments can be taken before these species and populations become extinct (Wilson 1985, 1992; Brooks et al. 2002; Singh 2002; Brook et al. 2006; Laurence 2007; Wheeler, 2008; Costa et al. 2012; Pimm et al. 2014; Darwall et al. 2018; Harrison et al. 2018; Reid et al. 2019).

The State of Maranhão

Maranhão is one of Brazil's 27 federative units, located in the Northeastern region of Brazil, being the most occidental Northeastern state, bordering the east of the State of Pará, in the Northern region of Brazil. It has an area of about 320.000 km² (being the second largest State in the Northeast region and the eighth largest state in Brazil), corresponding to about 3.9% of the national territory (Rebêlo et al. 2003). In terms of biodiversity, we can consider Maranhão as extremely relevant, since it has two of the main Brazilian biomes in its territory: the Amazon, in its western and central portion, and the Brazilian Cerrado, in the southern, central and eastern portions. Furthermore, it includes several biome transitional zone areas. Therefore, the State has representatives of fauna and flora from these two biomes, as well as representatives of the transitional zones, which makes it extremely relevant in ecological, biodiversity and conservation terms (Rebêlo et al. 2003; Ab'Sáber 2003; Olson et al. 2001; Fiaschi & Pirani 2009; Piorski 2010; Miranda et al. 2012). It is important to emphasize that in addition to these two distinct biomes and transitional zone areas, the State has a large coastal region (640 km) (Rebêlo et al. 2003), which extends from the mouth of the Gurupi River, to the Delta of the Parnaíba River, also possessing faunal and floral elements characteristic of coastal zones. In addition, there are transitional zones, towards the interior, between this wide coastal region, and the other continental biomes of the State, which makes the ecosystems of Maranhão even more interesting and complex.

Myers et al. (2000) designated world zones with a high degree of endemism and threatened biodiversity (hotspots). In Brazil, two biomes were considered hotspots: the Atlantic Forest and the Brazilian Cerrado. These biomes have been suffering great losses in their natural environments every year due to different anthropic activities, such as: agricultural expansion, deforestation, industrial activity, disordered urban growth, among others. This destruction of natural environments has intensified in the last three decades mainly in the Brazilian Cerrado, due to the expansion of the soy bean cultivation belt in the region. This biome comprises a great biodiversity, still partially unknown to science, lacking a more comprehensive taxonomic resolution for many animal and plant groups, but at the same time under great risk of extinction (Myers et al. 2000; Silva & Bates 2002; Klink & Machado 2005; Malhado et al. 2010). It is worth mentioning that a large part of Maranhão corresponds to areas whose predominant biome is the Brazilian Cerrado and its transitional zones towards the coast and the Amazon (MMA 2006; Maranhão 2011; ANA 2015), suggesting that the state should be treated as one of the priority regions in the country for investments in studies related to biodiversity and conservation.

Unfortunately, in Brazil, a fact that draws attention is the unequal concentration of human, material and investment resources for biodiversity study among its different states. According to Lewinsohn (2006) 80% of researchers, scientific collections and research funding are concentrated in institutions in the southern and southeastern Brazil. This scenario makes it difficult for states with less investment and fewer researchers to study their regional biodiversity. Consequently, making the knowledge of biodiversity between the different regions unequal.

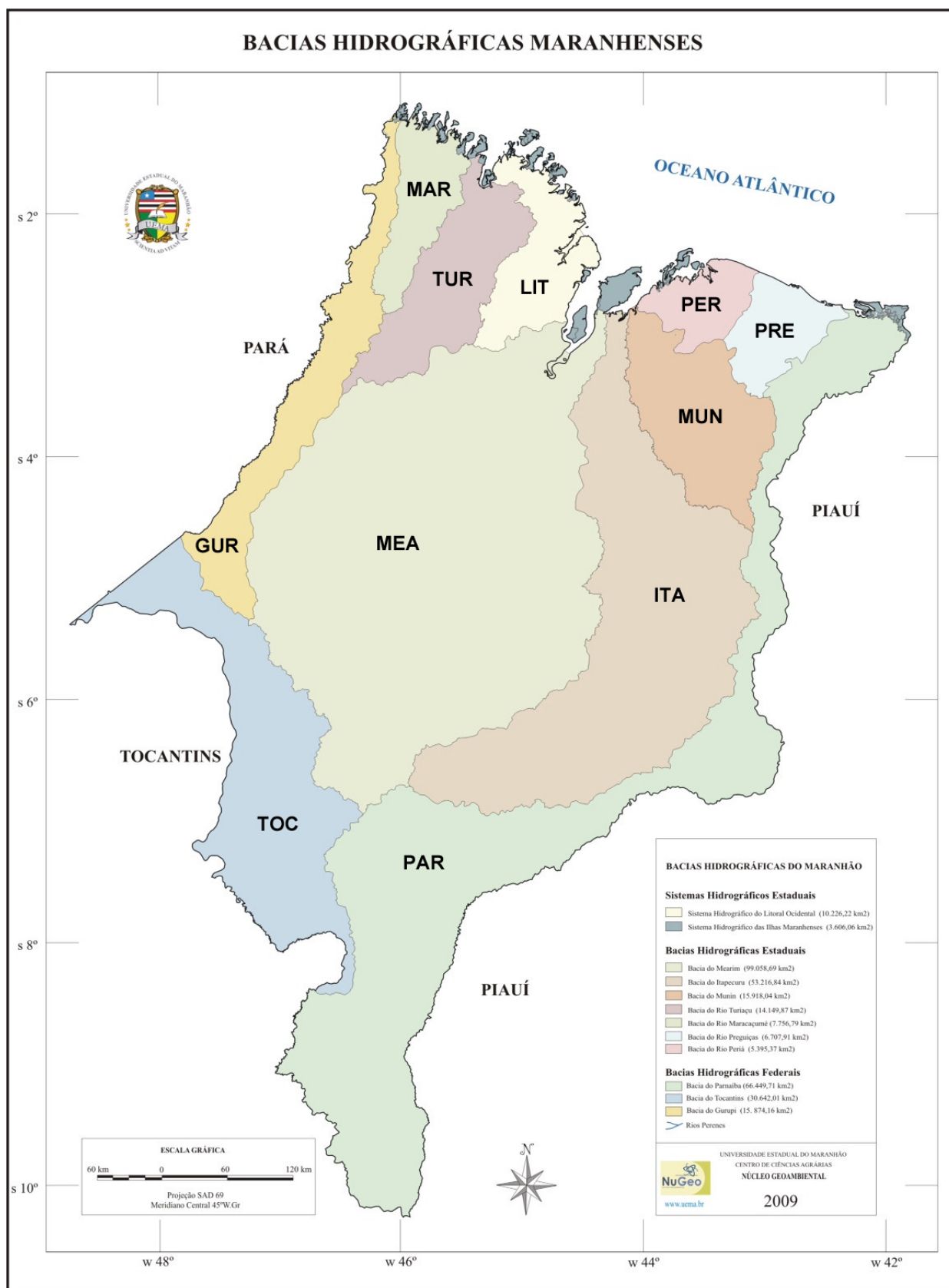


fig. 1 River basins and coastal ecoregions of the state of Maranhão.

Maranhão's freshwater ichthyofauna

The State of Maranhão comprises an extensive hydrographic network, including the following systems: Gurupi, Maracaçumé, Turiaçu, Pericumã, Mearim, Itapecuru, Munim, Peria, Preguiças, Parnaíba, as well as other isolated smaller coastal rivers, and the lower/middle sections of the Tocantins River, a major southern tributary of the Amazon River.

These river systems are subdivided into three main Brazilian hydrographic regions (Tocantins-Araguaia, Atlântico Nordeste Ocidental and Parnaíba) (Piorski 2010; Ramos et al. 2014; Guimarães et al. 2018a, 2020c; Abreu et al. 2019; and this study) (see fig. 1). Despite this extensive hydrographic network, few studies related to the Maranhão freshwater ichthyofauna focusing on taxonomy, biogeography and biodiversity have been published, when compared to other regions of Brazil, representing a major regional gap knowledge on these fields. Only in 2019, research on biogeography was published including a robust data on the freshwater fishes from the coastal basins of the State of Maranhão (Abreu et al. 2019). Previous studies argued that part of the Maranhão Ichthyofauna have affinities with the Amazon fish diversity, probably indicating a historical connection and origin (Hubert & Renno 2006; Barros et al. 2011; Martins & Oliveira 2011; Matavelli et al. 2015; Guimarães et al. 2016, 2017a,b; Lima et al. 2017). Whereas, other studies suggest the possibility of the coastal basins of Maranhão form a complex endemism unit for freshwater fishes (e.g., Hubert & Renno 2006; Dagosta & De Pinna 2017; Abreu et al. 2019). Therefore, there are still many distribution and biogeographical patterns that need to be uncovered (Guimarães et al. 2021b). It is important to emphasize that despite having an extensive hydrographic network, most of the publications related to the State's ichthyofauna are concentrated in lower sections of coastal and estuarine environments (Matavelli et al. 2015).

To demonstrate how much of the freshwater fish diversity in Maranhão is still little known, in the last 20 years only about 15 species occurring in the State have been described (e.g. Lucena 2003, 2007; Piorski et al. 2008; Bragança & Costa 2011; Ottoni 2011; Zanata et al. 2018; Guimarães et al. 2018a,c, 2019, 2020a; Brito et al. 2019a; Leão et al. 2019; Santana et al. 2019; Saraiva et al. 2021), some of them are endemic to river drainages of Maranhão, whereas others also occurs in river drainages adjacent to the State. The number of newly described species is low when compared to other regions, such as: some drainages of the Amazon River basin, the La Plata hydrographic system, and the coastal basins of eastern Brazil. However, this number is probably underestimated as indicated by the high number of species that could not be accurately identified at species level in many regional inventories for some basins located in the State (e.g., Barros et al. 2011; Castro & Dourado 2011; Piorski et al. 2017; Brito et al. 2019b, Oliveira et al. 2020; Guimarães et al. 2020b,c, 2021a,b). This demonstrates the potential for taxonomic studies of this region, with many species in need of a more careful and detailed taxonomic investigation to verify their accurate identities, or if they represents species new to science. Another aspect that demonstrates the only partial knowledge on the ichthyofauna composition of the state are the recently published distribution range expansions and new records of freshwater fish species for drainages from Maranhão (e.g., Guimarães et al. 2016, 2017a,b; Lima et al. 2017). Therefore, there is a great need to promote research related to fundamental issues that include the biogeography, biodiversity, taxonomy and conservation of freshwater fish in the state.

According to the present study, Characiformes (110 species) is the most species-rich freshwater fish order in the State of Maranhão, especially due to the high species diversity within the family Characidae, followed by Siluriformes (64 species), Cichliformes (19 species), and Cyprinodontiformes (15 species). The remaining orders combined possess less than 10 species known to occur in the State. In total, were registered 263 freshwater fish species for the State of Maranhão (figs. 2 and 3).

Regarding the species richness, the Mearim River basin exhibit the highest species diversity (136 species), followed by the Tocantins (109 species), Itapecuru (94 species), Parnaíba (93 species), and Munim (59 species) river basins. The other smaller coastal river basins possess less than 50 species (fig. 4). It is important to emphasize that the species numbers exhibited here do not correspond to the total number of species found in these river basins, but only of records made in the freshwater habitats within the Maranhão territory.

The Gurupi River basin exhibit less species than expected when we consider the size of this basin. However, this discrepancy in the expected diversity is probably due to subsampling in the area. If we analyze the main freshwater fish inventories conducted in the State of Maranhão (Garavello et al. 1998; Piorski et al. 1998, 2003, 2017; Castro et al. 2002; Pinheiro Júnior et al. 2005; Soares 2005; Castro et al. 2010; Barros et al. 2011; Castro & Dourado 2011; Sousa et al. 2011; Fraga et al. 2012; Ramos et al. 2014; Ribeiro et al. 2014; Matavelli et al. 2015; Melo et al. 2016; Brito et al. 2019b, 2020; Lima et al. 2019; Teixeira et al. 2019; Abreu et al. 2019, 2020; Oliveira et al. 2020; Guimarães et al. 2020b,c, 2021a,b), the main river basins sampled were the Mearim and Itapecuru, which justifies the high diversity recorded for these water systems. The low species diversity for the Maracaçumé River basin is also probably related to subsampling, once it would be expected a similar diversity as that of the Turiaçu, Preguiças and Peria river basins (fig. 4).

Historical freshwater fish collecting expeditions in the State of Maranhão

The transfer of the Portuguese court from Lisbon to Rio de Janeiro in 1809 due to the Napoleonic invasion had a major impact in the Brazilian history and especially in the field of natural sciences. Consequently, Brazil's ports were opened in 1810 to foreigners, and expeditions not only could be done, but were stimulated and many times supported by the Royal family. Between 1817 and 1820, the first major expedition conducted by the German botanist Carl von Martius and the German zoologist Johann Spix, reached different areas in Brazil's countryside, being the first non-Portuguese expedition to build large natural history collections from different Brazilian biomes such as the Cerrado, Amazon, and the Caatinga (Koerber 2021). In 1819, the expedition covered one of its hardest routes between Salvador in the Bahia State, crossing the arid Caatinga in the northeast of Brazil, to São Luiz, in the Maranhão State (Lisboa 1995). During the four months, an extended drought almost resulted in the death of both explorers and sampling close to Maranhão State was carried along the Parnaíba River (Lisboa 1995). Unfortunately, after returning to Europe, Spix died in 1826, probably from a tropical disease and left Martius with the enormous task of publishing the zoological findings of the expedition. Martius then invited Swiss Louis Agassiz, then a young ichthyologist, to study the fish species sampled in Brazil (Bastos & Sá 2011, Koerber 2021).

About 40 years after his first contact with the Brazilian ichthyofauna, now as founder and curator of the Museum of Comparative Zoology in Harvard, Louis Agassiz was the leader of the Thayer Expedition, that focused mostly in sampling freshwaters fishes, including small-sized ones, but also other organisms, as well as other areas of interest such as geology (Agassiz & Agassiz 1868; Dick 1977; Higuchi 1996). Also participants in this expedition have been the American philosopher and psychologist William James and the Canadian-American geologist Charles Hartt, known as the father of the Brazilian geology (Dick 1977; Bastos & Sá 2011). The expedition took about 15 months and explored different areas of Brazil, with separate teams covering distinct regions simultaneously. Between the 6. and 9. of August 1865, while waiting a steamer to Belém in the Pará State, Louis Agassiz and D. Bourget, were in São Luis investigating the coastal morphology and geology of Maranhão (Dick 1977). Probably during these few days Agassiz did not sample a single fish in the state. The fish species sampled in Maranhão by the Thayer Expedition were caught between October of 1865 and January of 1866 by Orestes H. St. John, a young American geologist, who explored the Parnaíba River from its source in the Chapada das Mangabeiras in the States of Maranhão and Piauí to its middle section in Teresina, also in the Piauí State (Dick 1977; Higuchi 1996). Most of the river sections, tributaries and sites sampled by him in the Parnaíba River were in the Piauí State and not in the Maranhão State such as the Gurguéia River and the Paraguá Lake, in the upper sections of the Parnaíba, and the regions nearby Teresina, São Gonçalo do Amarante, and the Poti River (Dick 1977; Higuchi 1996). The only site in Maranhão sampled by St. John was in the municipality of Caxias, in the margin of the Itapecuru River, a neighboring basin to the Parnaíba River (Dick 1977; Higuchi 1996).

In the first decade of the twentieth century, more specifically in 1903, another main expedition, led by the Austrian zoologist Franz Steindachner, explored some inner and still poorly known areas in Brazil (Vanzolini, 1992). One member of the expedition was the ornithologist Otmar Reiser, who provided an extremely accurate itinerary (Reiser 1926, 1929), making possible the mapping of the expedition's route (Vanzolini 1992). However, as reported by Böhme (1996), Steindachner and Reiser were not always together during the expedition as revealed by many of Steindachner letters (Böhme 1996), thus the detailed report from Vanzolini (1992) on the expedition is only based on Reiser itinerary information. Crossing the itinerary of Reiser's detailed notes and Steindachner's letters, allows to assume that at least in the beginning they were together, but in the last half of the expedition, when they sampled in the Piauí and Maranhão States, they were separated. After sampling in the São Francisco River, the expedition moved to the headwaters of the Parnaíba River, and from there to the middle section of the river in Teresina. From Steindachner letters, it is possible to note that he was particularly fascinated by the number of different species found in the Parnaíba River: "We have fish from and near the lake Paraguá, about 40 species, half of which do not occurs in the São Francisco River basin and are most likely still unknown" (Böhme 1996). Similar to the two previous expeditions, most of the sampling was carried in the State of Piauí. Steindachner used different fishing techniques and objects, such as different nets, double-winged trawl nets and explosion cartridges (Böhme 1996). In May 1903 sampling was carried in the Paraguá and Missão lakes. Probably the split occurred in the month of June, when Steindachner moved from Paraguá Lake to Santa Filomena (State of Piauí), and Reiser stayed in Paraguá for more sampling, and they only met in the end of September in the Pará State (Vanzolini 1992; Böhme 1996). Between June and August, Steindachner explored the nearby areas of Santa Filomena, Floriania, and Teresina, along the Parnaíba River basin, in both States of Maranhão and Piauí (Böhme 1996). In Maranhão State, Steindachner also sampled in the Itapecuru River, near the municipality of Caxias, but it is uncertain from his letters if there was sampling sites along the river in the way to São Luis (Böhme, 1996). The trip from Caxias to São Luis was made in a steamer, but due to the low water level instead of taking three days, it took 12 days and included stops in the municipalities of Codó and Croata [= Coroatá] (Böhme 1996). Reiser did a slightly

different route. Instead of heading to the Itapecuru River in Caxias, Maranhão, Reiser decided to sample downstream to the Parnaíba River mouth, with about one third of his sampling sites located between Teresina and the Parnaíba Delta (Vanzolini 1992). However, the focus of Reiser was not on fishes but on birds, thus, it is likely that no fish species have been sampled by him while being alone.

The last historical expedition was carried out between 1907 and 1910 by John Haseman, at that time a young American ichthyology student supervised by Eigenmann at the Carnegie Museum of Natural History in Pittsburgh. Haseman defined ten different target areas in South America to perform small ichthyological journeys (Eigenmann 1911; Haseman 1911). In the first expedition, he explored the northeast of Brazil, mainly the São Francisco River, but he also managed to sample in the Paraguá Lake in the upper Parnaíba River in the State of Piauí (Eigenmann 1911; Haseman 1911). Curiously, it has been published several misinformation about the dates and localities sampled by Haseman since his expedition. Barros et al. (2011: 376), stated that in “1903, Haseman, in a field trip to the area, was the first to collect specimens of fish in the Itapecuru River near Caxias. His material was used by Steindachner (1915), who described *Otocinclus hasemani*, and by Nijssen (1971) who described *Corydoras blichi vittatus* [*Corydoras blochi vittatus*]. However, in 1903, Haseman, who was born in 1890, was only 13 years old. Thus, it is not possible for him to have sampled in the Itapecuru River in the State of Maranhão at that time. According to Haseman’s (1911) detailed itinerary, the closest region that was explored by him in 1908 was the Paraguá Lake in the upper Parnaíba River. On the other hand Steindachner (1915) and Nijssen (1971) described species sampled by Haseman in July 1913 in the State of Maranhão, in Engenho da Água and in a tributary of the Itapecuru River at the Municipality of Caxias, respectively. However, there is no detailed information on further field expeditions carried out by Haseman in South America following the 1907-1910 expedition.

Myliobatiformes	2
Elopiformes	2
Osteoglossiformes	1
Clupeiformes	7
Characiformes	110
Gymnotiformes	11
Siluriformes	64
Batrachoidiformes	1
Syngnathiformes	2
Gobiiformes	6
Synbranchiformes	1
Carangiformes	6
Cichliformes	19
Cyprinodontiformes	15
Beloniformes	3
Mugiliformes	3
Tetraodontiformes	1
“Perciformes”	9
263	

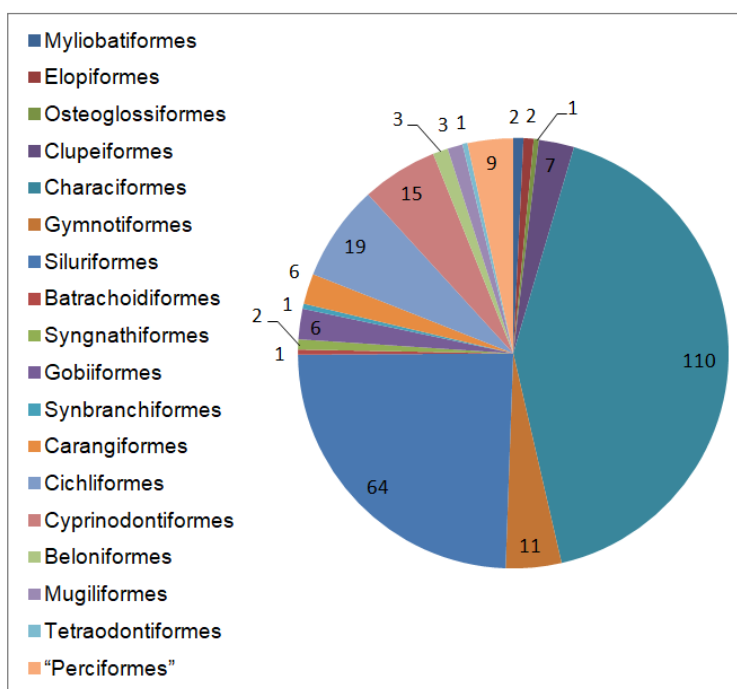
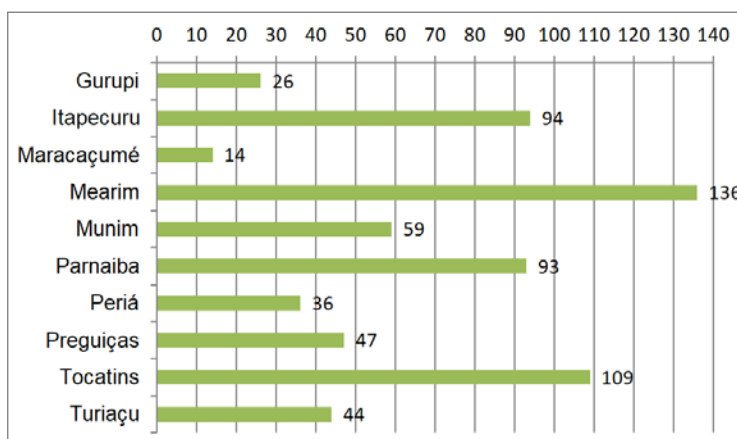


fig. 2
Species of fishes per order reported from the freshwaters of Maranhão as per the present list.

fig. 3 (right top)
Species of fishes per order reported from the freshwaters of Maranhão as per the present list.

fig. 4 (right low)
Species of fishes per river basin in Maranhão as per the present list.



Objectives of this work

The main objective of this study is to provide a list of all the known freshwater fish species occurring in the State of Maranhão, based on compilations of data already published. In addition to the species list, information on which hydrographic system in Maranhão each species occurs is provided. This checklist is following a very thorough and strict methodology, explained in detail below, and provides in an overview of the diversity of freshwater fish species that occur in the State and the main knowledge gaps that need to be addressed in the future.

Methods

We are convinced that any information in natural sciences needs to be reproducible in order to provide value and be considered by the scientific community. However, with very few exceptions within the main national or regional lists neither the referenced literature, nor the examined specimens are provided. When compiling this checklist, we have categorized the consulted literature in order to keep the data traceable, providing more clarity on the quality/nature of the information we relied on.

These categories indicate if in the cited contribution the authors provided details about the examined 'specimens', or only details on the sampled 'locality' in the state of Maranhão, or if a mere 'listing' for this territory was provided. If for a species we could not find any publication including 'specimens' but only a 'locality' or a 'listing' we have checked several collection databases available online for deposited specimens from Maranhão. In the positive cases we have listed these sources and maintained the respective species tentatively in the present list. To confirm the factual presence of these species in Maranhão those specimens need to be examined in the future.

The data contained in the present list have been updated until 31.Dec.2021.

river basins	For each species we have assigned the available literature accounts to the ecoregions Litoral Ocidental and Ilhas Maranhenses, and the ten river basins (fig. 1): Gurupi, Itapecuru, Maracaçumé, Mearim, Munim, Parnaíba, Peria, Preguiças, Tocantins, and Turiaçu. As some literature accounts do not refer to a certain river or locality but to Maranhão in general we have added 'MA state' as another category.
phylogeny	Arrangements of suprageneric systematics follow Van der Laan et al. (2021). Arrangements of tribes, genera, and species are mostly done in alphabetical order. If the case where we follow a specific paper in these arrangements the source is provided behind the respective taxon.
species	We have included all species for which we found a reliable reference to occur in the freshwaters in Maranhão. To avoid future errors at the end of each higher unit we provide the accounts of species names which have been reported from the state of Maranhão, but following our current knowledge either do not occur in this state or need verification based on voucher material. These are given with the original name and combination.
authorship	Authors usually listed as having participated in papers published by others or various authors (e.g. 'Eigenmann in Eigenmann & Kennedy') are reduced to the author/s of the species (e.g. 'Eigenmann'). For the complete data we recommend to consult the database Eschmeyer's Catalog of Fishes (Fricke et al. 2021).
references	References are provided for all cases except for formal descriptions of valid species names or their synonyms. For these we recommend to consult the database Eschmeyer's Catalog of Fishes (Fricke et al. 2021).
synonymies	Synonymies follow Eschmeyer's Catalog of Fishes (Fricke et al. 2021). '?' identifies a questionable or doubtful synonymy. Synonyms are not provided for introduced exotic species.
type localities	The type localities are only given for those located in the state of Maranhão. For all other type localities we recommend to consult the database Eschmeyer's Catalog of Fishes (Fricke et al. 2021).
collections	ANSP Academy of Natural Sciences, Philadelphia, PA, USA. CAS California Academy of Sciences, San Francisco, CA, USA DZSJRP Departamento de Zoologia, Universidade Estadual Paulista, São José do Rio Preto, SP, Brazil

MCP	Museu de Ciências e Tecnologia, Porto Alegre, RS, Brazil
MNRJ	Museu Nacional, Rio de Janeiro, RJ, Brazil
MPEG	Museu Paraense Emilio Goeldi, Belém, PA, Brazil
MZFS	Museu de Zoologia, Universidade Estadual de Feira de Santana, BA, Brazil
MZUEL	Museu de Zoologia, Universidade Estadual de Londrina, PR, Brazil
MZUSP	Museu de Zoologia, Universidade de São Paulo, SP, Brazil
NRM	Naturhistoriska Riksmuseet, Stockholm, Sweden
NUP	Nupelia, Universidade Estadual de Maringá, PR, Brazil
UFRJ	Universidade Federal do Rio de Janeiro
UNT	Universidade Nacional do Tocantins, Porto Nacional, TO, Brazil

Historical figures

Usually it is difficult to include pictures of the mentioned species in faunal lists due to copyright reasons, but also due to the mere unavailability of suitable photos. Therefore we have taken the decision to present historical drawings and paintings from the first half of the 19th century. Surprisingly numerous species have been treated by pioneers of ichthyology as Bloch, Cuvier, Valenciennes, and Castelnau. Others originate from the travel reports of researchers who have explored Brazil personally as Spix, Quoy, and Gaimard. The original works are available for download at the Biodiversity Heritage Library and do comply with the international copyright rules, having passed at least 70 years since the death of the respective latest author of these publications.

It is striking how different these pieces of art have been elaborated. Some appear rather sketchy while others allow to recognize every scale in the original high-res pdfs. Big differences can be noted in the colours applied by the artists. While the figures of Spix & Agassiz are usually too brownish, those of Castelnau appear too colourful and sometimes even wrong. The pictures published by Bloch, Cuvier, and Valenciennes resemble more the natural appearance of live specimens of the respective species.

Species or their synonyms for which figures are provided are indicated by '>' in the respective account. The sources from which the figures have been extracted are listed in a special section next to the references.

Acknowledgements

We are grateful to CAPES (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – Finance Code 001) and FAPEMA (Fundação de Amparo à Pesquisa e ao Desenvolvimento Científico e Tecnológico do Maranhão) for providing the financial and infrastructure support to carry out this work.

class ELASMOBRANCHII

order CARCHARHINIFORMES

family Carcharhinidae

Carcharhinidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Carcharias leucas Valenciennes, 1839 | in Feitosa et al. (2016) sub *Carcharhinus leucas* for Mearim basin

order RHINOPRISTIFORMES

family Pristidae

Pristidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Squalus pristis Linnaeus, 1758 | sub *Pristis pristis* in Feitosa et al. (2016) and sub *Pristis perotteti* in Soares (2013) for Mearim basin

order MYLIOBATIFORMES

family Potamotrygonidae

subfamily Potamotrygoninae

Potamotrygon Garman, 1877

P. orbignyi (Castelnau, 1855)

- > *Trygon orbignyi* Castelnau, 1855
- Trygon dumerilii* Castelnau, 1855
- Trygon reticulatus* Günther, 1880

records

- Parnaíba
 - o Melo et al. (2017): specimens

P. motoro (Müller & Henle, 1841)

- Taeniura motoro* Müller & Henle, 1841
- ? *Trygon garrapa* Jardine, 1843
- Trygon adans* Schomburgk, 1849
- Trygon mulleri* Castelnau, 1855
- Potamotrygon laticeps* Garman, 1913
- Potamotrygon alba* Castex, 1963
- Potamotrygon labradori* Castex, 1963
- Potamotrygon pauckei* Castex, 1963

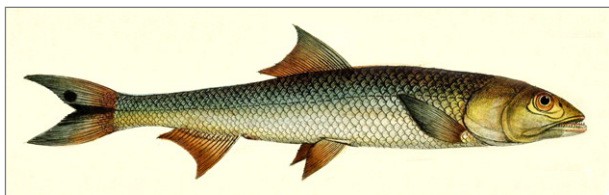
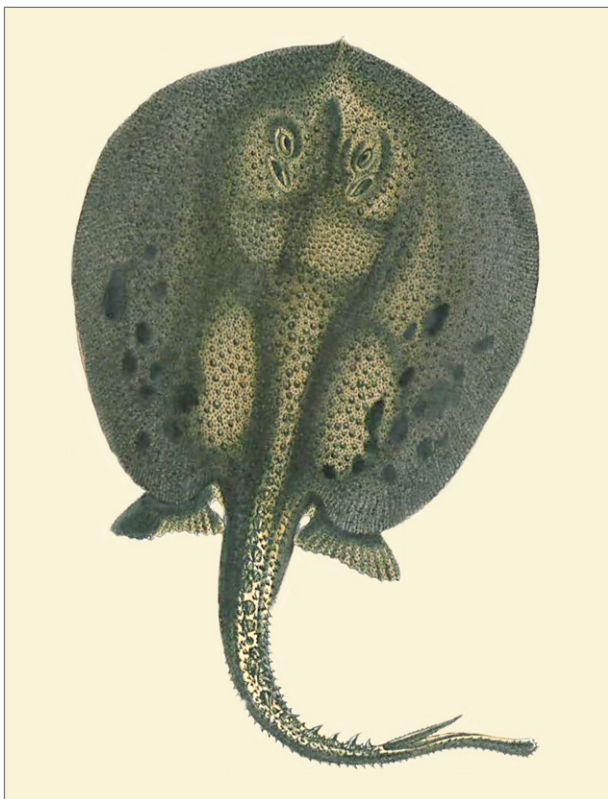
records

- Mearim
 - o Loboda (2010): specimens
 - o Soares (2013): listing
 - o Rincon et al. (2019): locality
 - o Guimarães et al. (2020b): specimens
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens
- Parnaíba
 - o Guimarães et al. (2021b): listing
 - o Moro et al. (2012): listing

[info](#)

Potamotrygonidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Potamotrygon signata Garman, 1913 | in Ramos (2012) for Parnaíba basin



Elops saurus Linnaeus, 1766
Bloch & Schneider, pl. 82

Potamotrygon orbignyi (Castelnau, 1855)
Castelnau, pl. 49, fig. 1

class ACTINOPTERI

order ELOPIFORMES

family Elopidae

Elops Linnaeus, 1766

E. saurus Linnaeus, 1766

- > *Elops saurus* Linnaeus, 1766
- Argentina carolina* Linnaeus, 1766
- Mugilomorus annacarolina* Lacepède, 1803
- Elops inermis* Mitchill, 1814
- Elops indicus* Swainson, 1839

records

- Mearim o Guimarães et al. (2020d): listing
- o Guimarães et al. (2021a): specimens

family Megalopidae

Megalops Lacepède, 1803

M. atlanticus Valenciennes, 1847

- Megalops atlanticus* Valenciennes, 1847
- Megalops elongatus* Girard, 1859

records

- Mearim o Soares (2013): listing
- o Guimarães et al. (2020d): listing
- o Guimarães et al. (2021a): specimens
- Preguiças o Brito et al. (2020): specimens

order **OSTEOGLOSSIFORMES**

family **Osteoglossidae**

Osteoglossum Cuvier, 1829

O. bicirrhosum (Cuvier, 1829)

Ischnosoma bicirrhosum Cuvier, 1829

> *Osteoglossum bicirrhosum* Spix & Agassiz, 1829

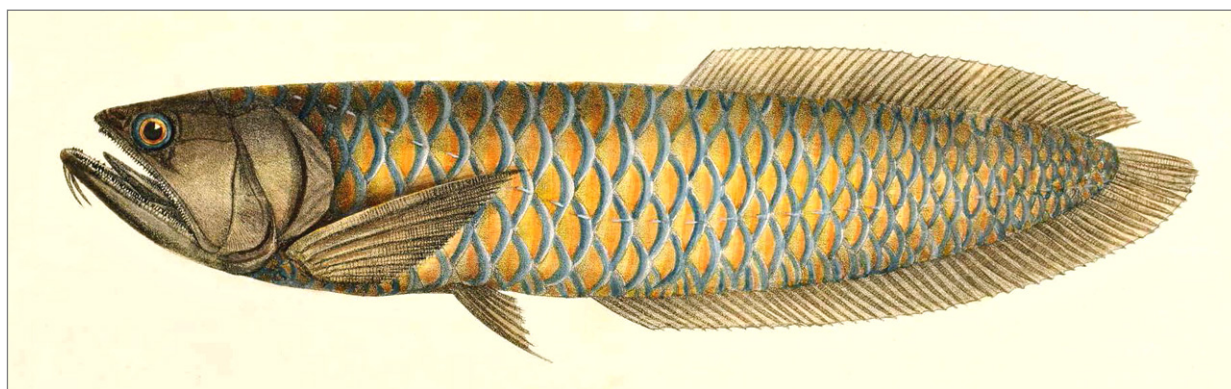
Osteoglossum vandellii Cuvier, 1829

Osteoglossum arowana Jardine, 1841

records

Tocantins

- Oliveira et al. (2021): specimens
- Guimarães et al. (2020d): listing
- Guimarães et al. (2021a): specimens



Osteoglossum bicirrhosum Spix & Agassiz, 1829, jr. synonym of *O. bicirrhosum* (Cuvier, 1829) | Spix & Agassiz, pl. 25

order **CLUPEIFORMES**

family **Engraulidae**

Anchovia Jordan & Evermann, 1895

A. surinamensis (Bleeker, 1865)

Stolephorus surinamensis Bleeker, 1865

Anchovia pallida Starks, 1913

Anchoviella venezuelae Fowler, 1931

Anchoviella potiana Schultz & Menezes, 1951

records

Itapecuru

- Barros et al. (2011): listing
- Abreu et al. (2019): listing

Mearim

- Abreu et al. (2019): listing
- Guimarães et al. (2020d): listing
- Guimarães et al. (2021a): specimens

Parnaíba

- Ramos (2012): locality

Turiaçu

- Abreu et al. (2019): listing

Cetengraulis Günther, 1868

C. edentulus (Cuvier, 1829)

Engraulis edentulus Cuvier, 1829

Engraulis brevis Poey, 1866

Stolephorus robertsi Jordan & Rutter, 1897

Stolephorus garmani Evermann & Marsh, 1899

Stolephorus gilberti Evermann & Marsh, 1899

? *Stolephorus maryuba* Miranda Ribeiro, 1908

Hildebrandichthys setiger Schultz, 1949

records

Mearim

- Guimarães et al. (2020d): listing
- Guimarães et al. (2021a): specimens

Lycengraulis Günther, 1868**L. batesii** (Günther 1868)*Engraulis batesii* Günther, 1868*Engraulis iquitensis* Nakashima, 1941*Lycengraulis barbouri* Hildebrand, 1943

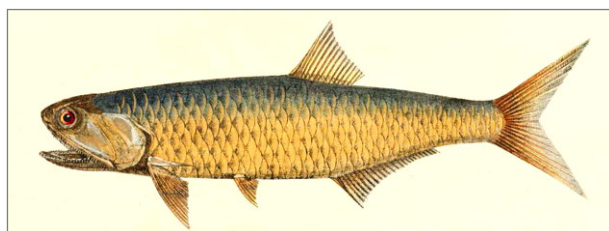
records

- | | |
|----------|---------------------------------------|
| Mearim | ○ Abreu et al. (2019): listing |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |
| Parnaíba | ○ Ramos (2012): locality |
| Periá | ○ Abreu et al. (2019): listing |
| | ○ Brito et al. (2019): specimens |
| | ○ Brito et al. (2020): specimens |

L. grossidens (Agassiz, 1829)*Engraulis grossidens* Agassiz, 1829> *Engraulis janeiro* Spix, 1829*Engraulis dentex* Valenciennes, 1848*Engraulis olidus* Günther, 1874*Anchovia abbotti* Fowler, 1915*Clupea inermis* Larrañaga, 1923*Clupea vigintiquiniradiata* Larrañaga, 1923*Lycengraulis polymera* Marini, 1935*Lycengraulis schroederi* Hildebrand, 1943*Lycengraulis simulator* Fuster de Plaza, 1962

records

- | | |
|--------|---------------------------------------|
| Mearim | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |

*Engraulis janeiro* Spix, 1829, jr. synonym of *Lycengraulis grossidens* (Agassiz, 1829) | Spix & Agassiz, pl. 24, fig. 1*Pterengraulis atherinoides* (Linnaeus, 1766) Bloch, pl. 408, fig. 1**Pterengraulis** Günther, 1868**P. atherinoides** (Linnaeus, 1766)> *Clupea atherinoides* Linnaeus, 1766*Clupea hepsetoides* Walbaum, 1792

records

- | | |
|-----------|---------------------------------------|
| Itapecuru | ○ Barros et al. (2011): listing |
| | ○ Abreu et al. (2019): listing |
| Mearim | ○ Soares (2013): listing |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |
| Parnaíba | ○ Ramos (2012): locality |

Engraulidae - unconfirmed species for Maranhão state requiring a verification based on voucher material*Anchovia lepidentostole* Fowler, 1911 | sub *Anchoviella lepidentostole* in Abreu et al. (2019) for Itapecuru and in Ramos(2012) for Parnaíba basin, and sub *A. iheringii* in Barros et al. (2011) for Itapecuru basin*Stolephorus guianensis* Eigenmann, 1912 | sub *Anchoviella guianensis* in Ramos (2012) for Parnaíba basin

family

Pristigasteridae**Pellona** Valenciennes, 1847**P. flavipinnis** (Valenciennes, 1837)> *Pristigaster flavipinnis* Valenciennes, 1847

Pellona orbignyana Valenciennes, 1847

records

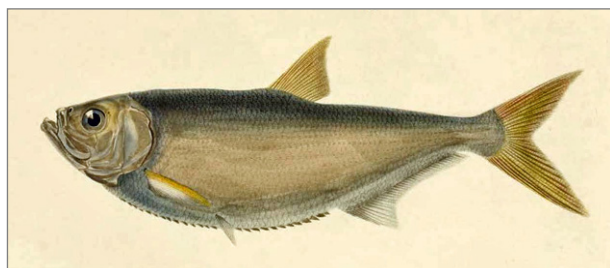
Parnaíba ○ Ramos (2012): locality

collections

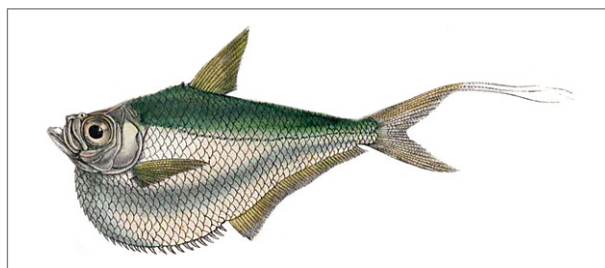
Parnaíba ○ MNRJ 29136

remarks

This species needs verification as no direct match between literature and collection lots is available.



Pellona flavipinnis (Valenciennes, 1837)
Valenciennes, pl. 10, fig. 2



Pristigaster phaeton Valenciennes, 1847, jr. synonym of
P. cayana Cuvier, 1829 | Castelnau, pl. 28, fig. 3

Pristigaster Cuvier, 1816

P. cayana Cuvier, 1829

Pristigaster argenteus Schinz, 1822 [nomen oblitum]

Pristigaster lichtensteini Jarocki, 1822 [nomen oblitum]

Pristigaster triangularis Stark, 1828 [nomen oblitum]

Pristigaster cayana Cuvier, 1829

Pristigaster martii Spix & Agassiz, 1829

Pristigaster americanus Guérin-Méneville, 1844

> *Pristigaster phaeton* Valenciennes, 1847

records

Tocantins ○ Garavello et al. (2010): locality

collections

Tocantins ○ MNRJ 39675, 49052, 49754

remarks

This species needs verification as no direct match between literature and collection lots is available.

Pristigasteridae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Pellona castelnaeana Valenciennes, 1847 | in Soares (2013) for Mearim basin

order **CHARACIFORMES**

family **Crenuchidae**

subfamily Characidiinae

Characidium Reinhardt, 1867

C. tapuia Zanata, Ramos & Oliveira-Silva, 2018

Characidium tapuia Zanata, Ramos & Oliveira-Silva, 2018

type locality Loreto, creek tributary of rio Balsas, at the road between Loreto and Buritirana, Fazenda Fogoso

records

Parnaíba ○ Zanata et al. (2018): type locality

C. zebra Eigenmann, 1909

Characidium zebra Eigenmann, 1909

Characidium fasciadorsale Fowler, 1914

records

Itapecuru ○ Abreu et al. (2019): listing

Mearim ○ Abreu et al. (2019): listing

○ Guimarães et al. (2020b): specimens sub *C. cf. zebra*

- o Guimarães et al. (2020d): listing sub *C. aff. zebra*
 - o Guimarães et al. (2021a): specimens sub *C. aff. zebra*
 - o Ramos (2012): locality
- Parnaíba
remarks
- This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

Crenuchidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Characidium bimaculatum Fowler, 1941 | in Barros et al. (2011) and Abreu et al. (2019) for Itapecuru basin
Characidium fasciatum Reinhardt, 1867 | in Abreu et al. (2019) for Itapecuru basin
Elachocharax pulcher Myers, 1927 | in Abreu et al. (2019) for Mearim basin

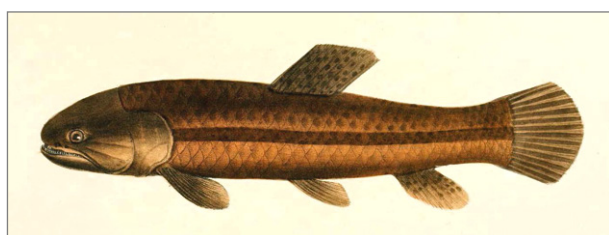
family **Erythrinidae**

Hoplerythrinus Gill, 1896

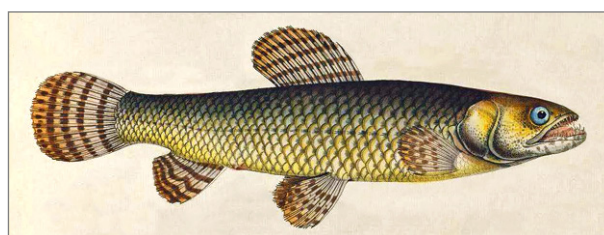
- H. unitaeniatus*** (Agassiz, 1829)
- > *Erythrinus unitaeniatus* Agassiz, 1829
 - Erythrinus salvus* Agassiz, 1829
 - Erythrinus vittatus* Valenciennes, 1846
 - Pseuderythrinus rosapinnis* Hoedeman, 1950

records

- Gurupi
- Itapecuru
 - o Abreu et al. (2019): listing
 - o Piorski et al. (1998): listing
 - o Lima (2017): listing
- Mearim
 - o Abreu et al. (2019): listing
 - o Soares (2013): listing
 - o Abreu et al. (2019): listing
 - o Guimarães et al. (2020c): specimens
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens
- Munim
- Parnaíba
 - o Oliveira et al. (2020): specimens
 - o Ramos (2012): locality
 - o Zanata et al. (2018): listing
- Periá
 - o Abreu et al. (2019): listing
- Preguiças
 - o Brito et al. (2020): specimens
 - o Abreu et al. (2019): listing
 - o Brito et al. (2019): specimens
 - o Brito et al. (2020): specimens



Hoplerythrinus unitaeniatus (Agassiz, 1829)
Spix & Agassiz, pl. 19



Hoplias malabaricus (Bloch, 1794)
Bloch, pl. 392

Hoplias Gill, 1903

- H. curupira*** Oyakawa & Mattox, 2009
Hoplias curupira Oyakawa & Mattox, 2009

records

- Tocantins
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens

- H. malabaricus*** (Bloch, 1794)
- > *Esox malabaricus* Bloch, 1794
 - Erythrinus macrodon* Agassiz, 1829
 - Erythrinus trahira* Agassiz, 1829
 - Macrodon tareira* Valenciennes, 1846
 - Macrodon ferox* Gill, 1858
 - Esox tararira* Larrañaga, 1923

records	
Gurupi	<ul style="list-style-type: none"> ○ Abreu et al. (2019): listing ○ Guimarães et al. (2020d): listing ○ Guimarães et al. (2021a): specimens
Itapecuru	<ul style="list-style-type: none"> ○ Piorski et al. (1998): listing ○ Barros et al. (2011): listing ○ Lima (2017): listing ○ Abreu et al. (2019): listing ○ Pires et al. (2020): listing
Mearim	<ul style="list-style-type: none"> ○ Soares (2013): listing ○ Abreu et al. (2019): listing ○ Guimarães et al. (2020b): specimens ○ Guimarães et al. (2020d): listing ○ Pires et al. (2020): listing ○ Guimarães et al. (2021a): specimens ○ Guimarães et al. (2021b): listing
Munim	<ul style="list-style-type: none"> ○ Ribeiro et al. (2014): locality ○ Matavelli et al. (2015): specimens ○ Lima (2017): listing ○ Guimarães et al. (2018): locality ○ Abreu et al. (2019): listing ○ Nunes et al. (2019): listing ○ Oliveira et al. (2020): specimens
Parnaíba	<ul style="list-style-type: none"> ○ Ramos (2012): locality ○ Melo et al. (2017): specimens ○ Pires et al. (2020): listing
Periá	<ul style="list-style-type: none"> ○ Abreu et al. (2019): listing ○ Brito et al. (2020): specimens
Preguiças	<ul style="list-style-type: none"> ○ Lima (2017): listing ○ Guimarães et al. (2018): locality ○ Abreu et al. (2019): listing ○ Brito et al. (2019): specimens ○ Brito et al. (2020): specimens ○ Guimarães et al. (2020d): listing ○ Guimarães et al. (2021a): specimens
Tocantins	<ul style="list-style-type: none"> ○ Guimarães et al. (2021a): specimens
Turiaçu	<ul style="list-style-type: none"> ○ Abreu et al. (2019): listing ○ Pires et al. (2020): listing
Litoral Ocid.	<ul style="list-style-type: none"> ○ Abreu et al. (2019): listing

family

Parodontidae***Apareiodon*** Eigenmann, 1916***A. machrisi*** Travassos, 1957*Apareiodon machrisi* Travassos, 1957

type locality Amaro Leite, ribeirão Cristalino, Maranhão [not Goiás]

records

- | | |
|-----------|---|
| Tocantins | <ul style="list-style-type: none"> ○ Travassos (1957): [erroneous] type locality ○ Pavanelli (1999): specimens, correction of type locality |
| MA state | <ul style="list-style-type: none"> ○ Pavanelli (2003): listing, correction of type locality ○ Pavanelli (2007): listing |

remarks

In the original description the type locality was stated as being in the state of Goiás. Pavanelli (1999, 2003) corrected this to Maranhão.

Guimarães et al. (2021a) list specimens from the Tocantins basin in Pará, very close to the border with Maranhão.

Parodontidae - unconfirmed species for Maranhão state requiring a verification based on voucher material*Apareiodon davisi* Fowler, 1941 | in Ramos (2012) for Parnaíba basin*Apareiodon itapicuruensis* Eigenmann & Henn 1916 | in Ramos (2012) for Parnaíba basin

family

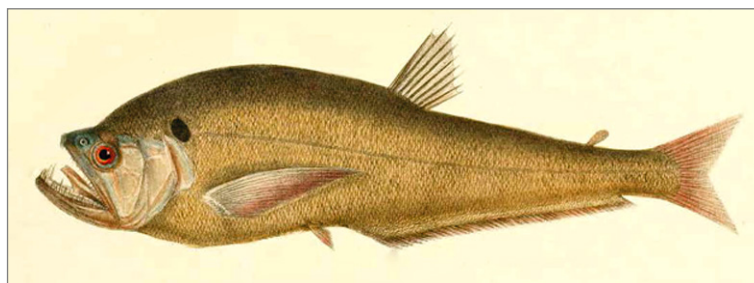
Cynodontidae***Cynodon*** Spix, 1829***C. gibbus*** (Spix & Agassiz, 1829)> *Rhaphiodon gibbus* Spix & Agassiz, 1829

records

- | | |
|-----------|---|
| Itapecuru | <ul style="list-style-type: none"> ○ Barros et al. (2011): listing ○ Abreu et al. (2019): listing |
|-----------|---|

- Mearim
 - o Toledo-Piza (2000): specimens
 - o Soares (2013): listing
 - o Abreu et al. (2019): listing
 - o Guimarães et al. (2020b): specimens
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens
- Munim
 - o Abreu et al. (2019): listing

Cynodon gibbus (Spix & Agassiz, 1829)
Spix & Agassiz, pl. 27



Hydrolycus Müller & Troschel, 1844

H. armatus (Jardine, 1841)

Hydrocyon armatus Jardine, 1841

records

- Tocantins
 - o Garavello et al. (2010): locality
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens

Rhaphiodon Agassiz, 1829

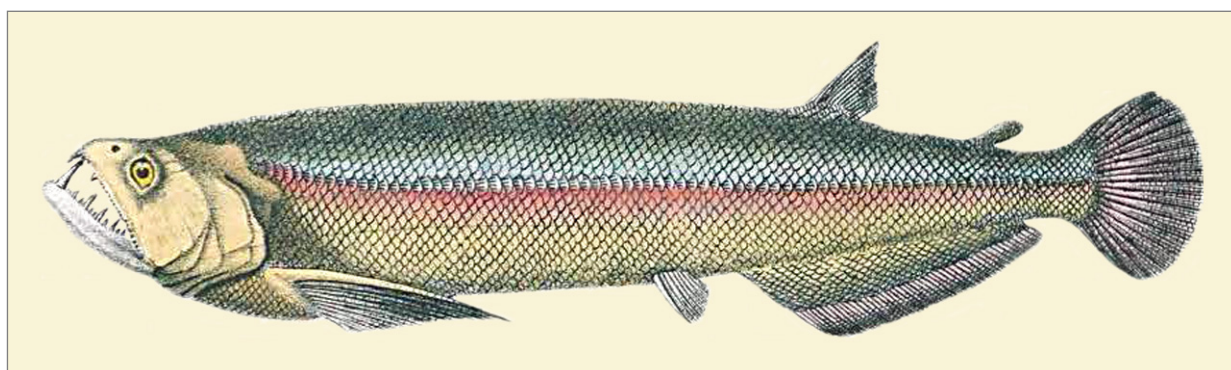
R. vulpinus Spix & Agassiz, 1829

> *Rhaphiodon vulpinus* Spix & Agassiz, 1829

Hydropardus rapax Reinhardt, 1851

records

- Tocantins
 - o Toledo-Piza (2000): specimens
 - o Garavello et al. (2010): locality
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens



Rhaphiodon vulpinus Spix & Agassiz, 1829 | Castelnau, pl. 39, fig. 1

Cynodontidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Hydrolycus tatauaia Toledo-Piza, Menezes & Santos, 1999 | in Garavello et al. (2010) for Tocantins basin

family

Serrasalminidae

Kolmann et al. (2020)

subfamily

Colossomatinae

Colossoma Eigenmann & Kennedy, 1903

C. macropomum (Cuvier, 1816)

Myletes macropomus Cuvier, 1816

Myletes oculus Cope, 1872
Myletes nigripinnis Cope, 1878
Melloina tambaqui Amaral Campos, 1946

records

- Tocantins
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

Mylossoma Eigenmann & Kennedy, 1903

M. unimaculatum (Steindachner, 1908)

Metynnis unimaculatus Steindachner, 1908

records

- Itapecuru
 - Abreu et al. (2019): listing
- Tocantins
 - Garavello et al. (2010): locality sub *M. duriventre*

collections

- Mearim
 - MZUEL 15317
- Tocantins
 - MNRJ 39742, 39766

remarks

This species needs verification as no direct match between literature and collection lots is available. Mateussi et al. (2018) only recently revalidated *Mylossoma unimaculatum* from the synonymy with *M. duriventre* and restricted the distribution of the latter to the La Plata basin. Hence, we have included collection lots listed for Maranhão as *M. duriventre* here under *M. unimaculatum*.

subfamily

Myleinae

Myloplus Gill, 1896

M. asterias (Müller & Troschel, 1844)

Myletes asterias Müller & Troschel, 1844

Myletes ellipticus Günther, 1864

Myleus gurupyensis Steindachner, 1911

Myloplus schulzei Ahl, 1938

Tomete maculatus Campos, 1944

records

- Gurupi
 - Gomes (2015): specimens
- Parnaíba
 - Ramos (2012): locality
 - Zanata et al. (2018): listing

M. lobatus (Valenciennes, 1850)

Myletes lobatus Valenciennes, 1850

Myletes discoideus Kner, 1860

Myletes parma Günther, 1864

records

- Gurupi
 - Guimarães et al. (2020d): listing sub *M. cf. lobatus*
 - Guimarães et al. (2021a): specimens sub *M. cf. lobatus*

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

M. rubripinnis (Müller & Troschel, 1844)

Myletes rubripinnis Müller & Troschel, 1844

Myletes luna Valenciennes, 1850

records

- Mearim
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Guimarães et al. (2021b): listing
- Tocantins
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

M. torquatus (Kner, 1858)

Myletes torquatus Kner, 1858

records

- Tocantins
 - Garavello et al. (2010): locality
- Turiaçu
 - Abreu et al. (2019): listing

collections

- Tocantins
 - MCP 53029, 53030

Turiaçu	○ MZUSP 87272
remarks	○ MPEG 2997
	This species needs verification as no direct match between literature and collection lots is available.

subfamily Serrasalminae

Metynnis Cope, 1878

M. lippincottianus (Cope, 1870)

Myletes lippincottianus Cope, 1870
Myletes orbicularis Steindachner, 1908
Metynnis goeldii Eigenmann, 1903
Metynnis roosevelti Eigenmann, 1915
Metynnis snethlageae Ahl, 1923
Metynnis anisurus Ahl, 1923
Metynnis heinrothi Ahl, 1923
Metynnis seitzii Ahl, 1923
Metynnis dungerni Ahl, 1923

records

Itapecuru	○ Abreu et al. (2019): listing
Mearim	○ Guimarães et al. (2020b): specimens
	○ Guimarães et al. (2020d): listing
	○ Guimarães et al. (2021a): specimens
	○ Guimarães et al. (2021b): listing
Munim	○ Abreu et al. (2019): listing
	○ Nunes et al. (2019): listing
Parnaíba	○ Ramos (2012): locality
Periá	○ Abreu et al. (2019): listing
	○ Brito et al. (2019): specimens
	○ Brito et al. (2020): specimens
Preguiças	○ Abreu et al. (2019): listing
	○ Brito et al. (2020): specimens
Turiaçu	○ Abreu et al. (2019): listing
Litoral Ocid.	○ Ota et al. (2016): specimens

Pygocentrus Müller & Troschel, 1844

P. nattereri Kner, 1858

Pygocentrus nattereri Kner, 1858
Pygocentrus altus Gill, 1870
Serrasalmo ternetzi Steindachner, 1908

records

Itapecuru	○ Piorski et al. (1998): listing
	○ Barros et al. (2011): listing
	○ Abreu et al. (2019): listing
	○ Mateussi et al. (2019): specimens
Mearim	○ Piorski et al. (2005): locality
	○ Soares (2013): listing
	○ Abreu et al. (2019): listing
	○ Guimarães et al. (2020b): specimens
	○ Guimarães et al. (2020d): listing
	○ Guimarães et al. (2021a): specimens
	○ Guimarães et al. (2021b): listing
Munim	○ Ribeiro et al. (2014): locality
	○ Abreu et al. (2019): listing
Parnaíba	○ Ramos (2012): locality
Preguiças	○ Brito et al. (2020): specimens
Turiaçu	○ Abreu et al. (2019): listing

Serrasalmus Lacepède, 1803

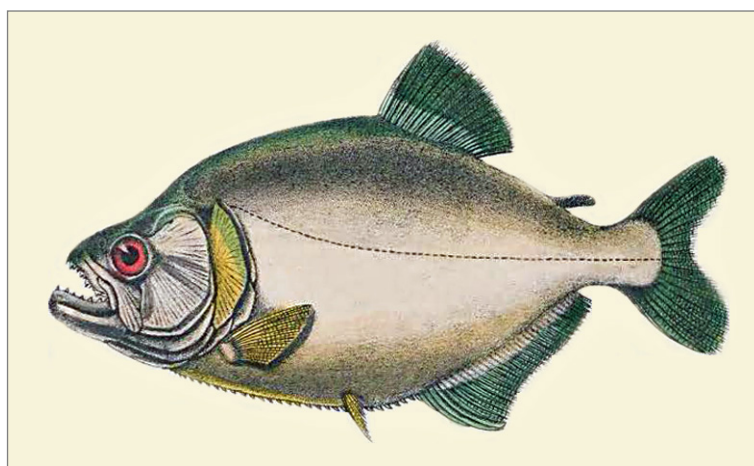
S. rhombeus (Linnaeus, 1766)

- > *Salmo rhombeus* Linnaeus, 1766
- Serrasalmus niger* Jardine, 1841
- Serrasalmus immaculatus* Cope, 1878
- ? *Serrasalmus paraense* Steindachner, 1908
- Serrasalmus humeralis* var. *gracillior* Eigenmann, 1915
- Serrasalmus boekeri* Ahl, 1931

Serrasalmus normani Géry, 1964

records

- | | |
|-----------|---------------------------------------|
| Itapecuru | ○ Barros et al. (2011): listing |
| | ○ Abreu et al. (2019): listing |
| Mearim | ○ Soares (2013): listing |
| | ○ Abreu et al. (2019): listing |
| | ○ Guimarães et al. (2020b): specimens |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |
| | ○ Guimarães et al. (2021b): listing |
| Parnaíba | ○ Ramos (2012): locality |
| | ○ Melo et al. (2017): specimens |
| Periá | ○ Abreu et al. (2019): listing |
| | ○ Brito et al. (2020): specimens |
| Tocantins | ○ Garavello et al. (2010): locality |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |
| Turiaçu | ○ Abreu et al. (2019): listing |



Serrasalmus rhombeus (Linnaeus, 1766)
Castelnau, pl. 37, fig. 3

Serrasalmidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Serrasalmo brandtii Lütken, 1875 | sub *Serrasalmus brandtii* in Piorski et al. (2005) for Mearim basin, in Abreu et al. (2019) for Mearim, Turiaçu, and litoral ocidental basins, and in Latini et al. (2016) as species introduced to the state of Maranhão translocated from other areas of Brazil

Serrasalmus eigenmanni Norman 1929 | in Abreu et al. (2019) for Mearim basin

Serrasalmidae - species considered not to be distributed in Maranhão

Myletes duriventris Cuvier, 1818 | sub *Mylossoma duriventre* in Garavello et al. (2010) for Tocantins basin | Mateussi et al. (2018)

Serrasalmus marginatus Valenciennes, 1837 | in Ribeiro et al. (2014) and Abreu et al. (2019) for Munim basin | Jégu (2003), Jégu & Ingenito (2007)

family

Hemiodontidae***Bivibranchia*** Eigenmann, 1912***B. velox*** (Eigenmann & Myers, 1927)*Atomaster velox* Eigenmann & Myers, 1927

records

- | | |
|-----------|---|
| Tocantins | ○ Eigenmann & Myers (1927): paratype locality |
| | ○ Langeani & Moreira (2013): specimens |

Hemiodus Müller, 1842***H. argenteus*** Pellegrin, 1909*Hemiodus argenteus* Pellegrin, 1909*Hemiodopsis ocellata* Vari, 1982

records

- | | |
|-----------|---------------------------------|
| Itapecuru | ○ Langeani (2003) listing |
| | ○ Barros et al. (2011): listing |
| | ○ Abreu et al. (2019): listing |
| Mearim | ○ Soares (2013): listing |

- collections
 - Langeani (2003) listing
- Mearim
 - MZUEL 15352, 17384
 - MZUSP 20676
- Turiaçu
 - MZUEL 17425
- remarks
 - This species needs verification as no direct match between literature and collection lots is available.

H. microlepis Kner, 1858

Hemiodus microlepis Kner, 1858

records

- Mearim
 - Abreu et al. (2019): listing
 - Nogueira et al. (2019): specimens
- Munim
 - Abreu et al. (2019): listing
- Turiaçu
 - Nogueira et al. (2019): specimens

H. parnaguae Eigenmann & Henn, 1916

Hemiodus parnaguae Eigenmann & Henn, 1916

Hemiodus rodolphi Fowler, 1941

records

- Itapecuru
 - Abreu et al. (2019): listing
- Mearim
 - Abreu et al. (2019): listing
 - Guimarães et al. (2020b): specimens sub *H. cf. parnaguae*
 - Guimarães et al. (2020d): listing sub *H. cf. parnaguae*
 - Guimarães et al. (2021a): specimens sub *H. cf. parnaguae*
- Munim
 - Nunes et al. (2019): listing
- Parnaíba
 - Ramos (2012): locality
 - Nogueira et al. (2019): specimens
- Turiaçu
 - Abreu et al. (2019): listing

H. unimaculatus (Bloch, 1794)

- > *Salmo unimaculatus* Bloch, 1794
- Anodus notatus* Schomburgk, 1841
- Hemiodus crenidens* Müller, 1842
- Hemiodus microcephalus* Günther, 1864
- Hemiodus kappleri* Günther, 1868

records

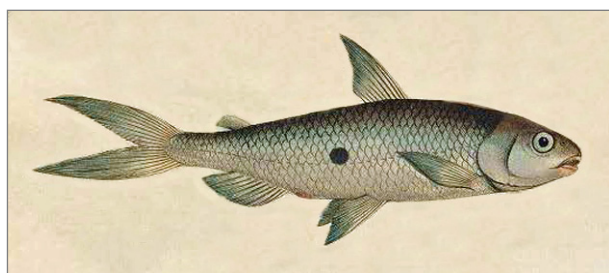
- Mearim
 - Abreu et al. (2019): listing
- Tocantins
 - Garavello et al. (2010): locality

collections

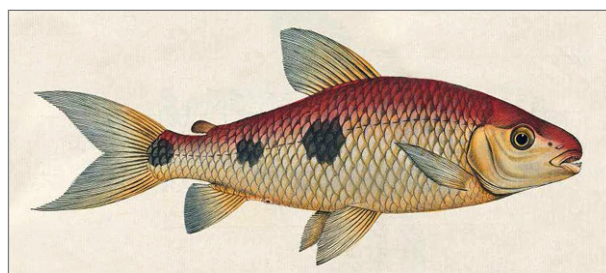
- Tocantins
 - MNRJ 39645, 39656, 39698, 39705, 39716, 39727
 - MPEG 20660
 - MZFS 16419
 - UNT 1444, 4509, 6443, 6795

remarks

- This species needs verification as no direct match between literature and collection lots is available.



Hemiodus unimaculatus (Bloch, 1794) | Bloch, pl. 381, fig. 3



Leporinus friderici (Bloch, 1794) | Bloch, pl. 378

family

Anostomidae

Anostomoides Pellegrin, 1909

A. nattereri (Steindachner, 1876)

Leporinus nattereri Steindachner, 1876

Anostomoides passionis Santos & Zuanon, 2006

records

- Tocantins
 - Assega & Birindelli (2019): specimens

Leporinus Agassiz, 1829**L. affinis** Günther, 1864*Leporinus affinis* Günther, 1864

records

- Itapecuru ○ Abreu et al. (2019): listing
- Tocantins ○ Garavello et al. (2010): locality

collections

- Tocantins ○ MNRJ 39658, 39724, 48750
- MZUSP 87268

remarks

This species needs verification as no direct match between literature and collection lots is available. Guimarães et al. (2021a) list specimens from the Tocantins basin in Pará, very close to the border with Maranhão.

L. friderici (Bloch, 1794)> *Salmo friderici* Bloch, 1794

records

- Gurupi ○ Guimarães et al. (2020d): listing sub *L. aff. friderici*
- Guimarães et al. (2021a): specimens sub *L. aff. friderici*
- Itapecuru ○ Piorski et al. (1998): listing
- Abreu et al. (2019): listing
- Maracaçumé ○ Abreu et al. (2019): listing
- Mearim ○ Soares (2013): listing
- Abreu et al. (2019): listing
- Guimarães et al. (2020b): specimens sub *L. aff. friderici*
- Guimarães et al. (2020d): listing sub *L. aff. friderici*
- Guimarães et al. (2021a): specimens sub *L. aff. friderici*
- Guimarães et al. (2021b): listing sub *L. aff. friderici*
- Munim ○ Abreu et al. (2019): listing
- Parnaíba ○ Ramos (2012): locality
- Melo et al. (2017): specimens
- Periá ○ Abreu et al. (2019): listing
- Brito et al. (2019): specimens sub *L. aff. friderici*
- Brito et al. (2020): specimens sub *L. aff. friderici*
- Tocantins ○ Garavello et al. (2010): locality
- Guimarães et al. (2020d): listing sub *L. aff. friderici*
- Guimarães et al. (2021a): specimens sub *L. aff. friderici*

L. piau Fowler, 1941*Leporinus piau* Fowler, 1941

records

- Itapecuru ○ Barros et al. (2011): listing
- Lima (2017): listing
- Abreu et al. (2019): listing
- Munim ○ Ribeiro et al. (2014): locality
- Lima (2017): listing
- Parnaíba ○ Ramos (2012): locality
- Turiação ○ Assega & Birindelli (2019): specimens

Megaleporinus Ramirez, Birindelli & Galetti, 2017**M. macrocephalus** (Garavello & Britski, 1988)*Leporinus macrocephalus* Garavello & Britski, 1988

records

- Itapecuru ○ Almeida et al. (2021): specimens
- Mearim ○ Guimarães et al. (2020c): specimens
- Almeida et al. (2021): specimens

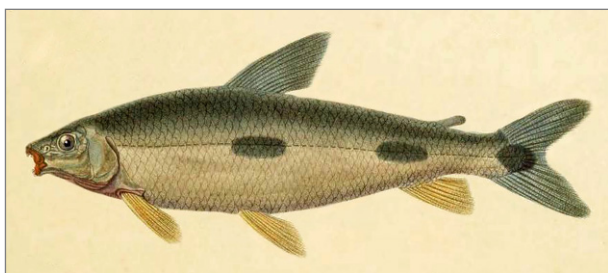
remarks

introduced species translocated from other areas of Brazil

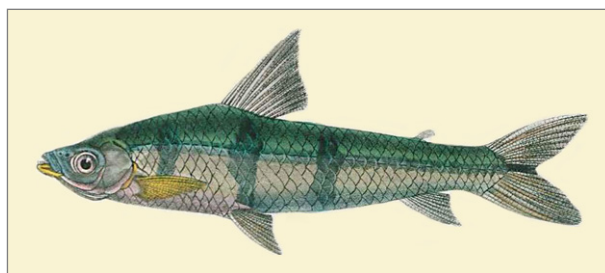
M. obtusidens (Valenciennes, 1837)> *Curimatus obtusidens* Valenciennes, 1837*Leporinus silvestrii* Boulenger, 1902? *Salmo boops* Larrañaga, 1923? *Salmo undecimradiatus* Larrañaga, 1923*Leporinus aguapeiensis* Amaral Campos, 1945

records

- Parnaíba ○ Britski et al. (2012): specimens sub *Leporinus obtusidens*.



Megaleporinus obtusidens (Valenciennes, 1837)
Valenciennes, pl. 8, fig. 2



Schizodon vittatus (Valenciennes, 1850)
Castelnaud, pl. 32, fig. 1

Schizodon Agassiz, 1829

S. dissimilis (Garman, 1890)

Anostomus dissimilis Garman, 1890

records

- Itapecuru
 - Barros et al. (2011): listing
 - Abreu et al. (2019): listing
 - Abreu et al. (2020): listing
- Mearim
 - Ramirez et al. (2020): listing
 - Abreu et al. (2019): listing
 - Abreu et al. (2020): listing
 - Guimarães et al. (2020b): specimens
 - Ramirez et al. (2020): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Guimarães et al. (2021b): listing
- Munim
 - Ribeiro et al. (2014): locality
 - Lima (2017): listing
 - Abreu et al. (2019): listing
 - Nunes et al. (2019): listing
- Parnaíba
 - Abreu et al. (2020): listing
 - Garavello & Britski (2019): specimens
- Turiaçu
 - Abreu et al. (2019): listing
 - Abreu et al. (2020): listing

S. vittatus (Valenciennes, 1850)

> *Piabuca vittata* Valenciennes, 1850

records

- Itapecuru
 - Piorski et al. (1998): listing
- Mearim
 - Soares (2013): listing
 - Abreu et al. (2019): listing
- Tocantins
 - Garavello et al. (2010): locality
 - Garavello et al. (2021): specimens

Anostomidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Anostomus rostratus Borodin, 1931 | sub *Schizodon rostratus* in Ramos (2012) for Parnaíba basin

family

Chilodontidae

Caenotropus Günther, 1864

C. labyrinthicus (Kner, 1858)

Microodus labyrinthicus Kner, 1858

Chilodus labyrinthicus rupununi Fowler, 1914

records

- Gurupi
 - Abreu et al. (2019): listing
- Parnaíba
 - Ramos (2012): locality
- Tocantins
 - Garavello et al. (2010): locality
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

Chilodus Müller & Troschel, 1844

C. punctatus Müller & Troschel, 1844

Chilodus punctatus Müller & Troschel, 1844

Citherinus chilodus Valenciennes, 1850

records

- Tocantins
 - Garavello et al. (2010): locality
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

family

Curimatidae**Curimata** Bosc, 1817**C. cyprinoides** (Linnaeus, 1766)*Salmo immaculatus* Linnaeus, 1758*Salmo cyprinoides* Linnaeus, 1766> *Salmo edentulus* Bloch, 1794*Charax planirostris* Gronow, 1854*Curimatus schomburgkii* Günther, 1864*Curimata copei* Fowler, 1906

records

- Itapecuru
 - Abreu et al. (2019): listing
- Mearim
 - Soares (2013): listing
 - Abreu et al. (2019): listing
- Tocantins
 - Garavello et al. (2010): locality
- Turiaçu
 - Abreu et al. (2019): listing

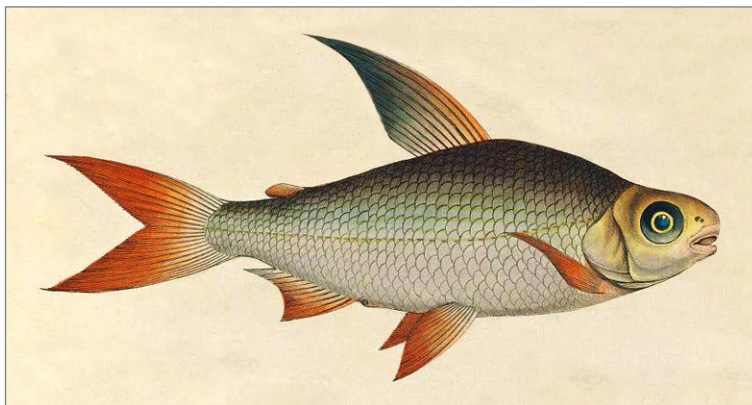
collections

- Mearim
 - MCP 23296
- Tocantins
 - MNRJ 39799

remarks

This species needs verification as no direct match between literature and collection lots is available.

Salmo edentulus Bloch, 1794
jr. synonym of
Curimata cyprinoides (Linnaeus, 1766)
Bloch, pl. 380

**C. macrops** Eigenmann & Eigenmann, 1889*Curimata macrops* Eigenmann & Eigenmann, 1889

records

- Itapecuru
 - Piorski et al. (1998): listing
 - Barros et al. (2011): listing
 - Abreu et al. (2019): listing
- Mearim
 - Abreu et al. (2019): listing
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
- Munim
 - Abreu et al. (2019): listing
- Parnaíba
 - Vari (1989): specimens
 - Ramos (2012): locality
- Turiaçu
 - Abreu et al. (2019): listing

Curimatella Eigenmann & Eigenmann, 1889**C. immaculata** (Fernández-Yépez, 1948)*Lepipinna immaculata* Fernández-Yépez, 1948

records

- Parnaíba
 - Ramos (2012): locality
 - Melo et al. (2017): specimens

Curimatopsis Steindachner, 1876**C. cryptica** Vari, 1982*Curimatopsis cryptica* Vari, 1982

records

- Mearim ○ Guimarães et al. (2021b): listing sub *C. cf. cryptica*
- Munim ○ Oliveira et al. (2020): specimens sub *C. aff. cryptica*
- Periá ○ Brito et al. (2020): specimens sub *C. aff. cryptica*
- Preguiças ○ Brito et al. (2020): specimens sub *C. aff. cryptica*

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

Cyphocharax Fowler, 1906**C. notatus** (Steindachner, 1908)*Curimatus notatus* Steindachner, 1908*Curimatus hermanni* Ahl, 1931

records

- Tocantins ○ Guimarães et al. (2020d): listing
- Guimarães et al. (2021a): specimens

Psectrogaster Eigenmann & Eigenmann, 1889**P. amazonica** Eigenmann & Eigenmann, 1889*Psectrogaster amazonica* Eigenmann & Eigenmann, 1889

records

- Mearim ○ Soares (2013): listing
- Tocantins ○ Vari (1989): specimens

P. rhomboides Eigenmann & Eigenmann, 1889*Psectrogaster rhomboides* Eigenmann & Eigenmann, 1889

records

- Itapecuru ○ Barros et al. (2011): listing
- Abreu et al. (2019): listing
- Mearim ○ Abreu et al. (2019): listing
- Guimarães et al. (2020b): specimens
- Guimarães et al. (2020d): listing
- Guimarães et al. (2021a): specimens
- Munim ○ Nunes et al. (2019): listing
- Parnaíba ○ Ramos (2012): locality
- Melo et al. (2017): specimens

Steindachnerina Fowler, 1906**S. amazonica** (Steindachner, 1911)*Curimatus elegans amazonica* Steindachner, 1911

records

- Tocantins ○ Garavello et al. (2010): locality

collections

- Parnaíba ○ MZUSP 87472
- Tocantins ○ MZUSP 87298, 87338, 87447, 87541, 87562

remarks

This species needs verification as no direct match between literature and collection lots is available.

S. notonota (Miranda Ribeiro, 1937)*Curimatus notonotus* Miranda Ribeiro, 1937

records

- Itapecuru ○ Barros et al. (2011): listing
- Abreu et al. (2019): listing
- Mearim ○ Vari (1991): specimens
- Abreu et al. (2019): listing
- Guimarães et al. (2020b): specimens
- Guimarães et al. (2020d): listing
- Guimarães et al. (2021a): specimens
- Guimarães et al. (2021b): listing
- Munim ○ Lima (2017): listing
- Abreu et al. (2019): listing
- Oliveira et al. (2020): specimens
- Parnaíba ○ Ramos (2012): locality
- Melo et al. (2017): specimens
- Periá ○ Abreu et al. (2019): listing

- o Brito et al. (2020): specimens

Curimatidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Curimata roseni Vari, 1989 | in Abreu et al. (2019) for Mearim basin

Curimatus dorsalis Eigenmann & Eigenmann, 1889 | sub *Curimatella dorsalis* in Abreu et al. (2019) for Gurupi, Itapecuru, Mearim, and Munim basins

Curimatus falcatus Eigenmann & Eigenmann, 1889 | sub *Psectrogaster falcata* in Abreu et al. (2019) for Mearim basin

family

Prochilodontidae

Prochilodus Agassiz, 1829

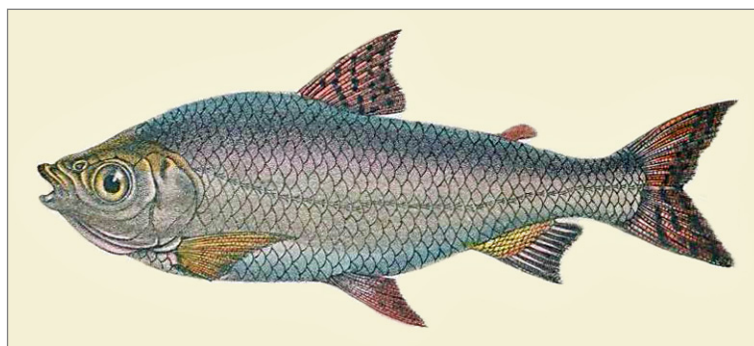
P. lacustris Steindachner, 1907

Prochilodus lacustris Steindachner, 1907

type locality Rio Medonho, Parnaíba basin

records

- | | |
|-----------|--|
| Itapecuru | o Barros et al. (2011): listing
o Abreu et al. (2019): listing
o Abreu et al. (2020): listing |
| Mearim | o Castro & Vari (2004): specimens
o Abreu et al. (2019): listing
o Abreu et al. (2020): listing
o Guimarães et al. (2020b): specimens
o Guimarães et al. (2020d): listing
o Guimarães et al. (2021a): specimens |
| Munim | o Ribeiro et al. (2014): locality
o Abreu et al. (2019): listing
o Nunes et al. (2019): listing |
| Parnaíba | o Steindachner (1907): type locality
o Steindachner (1917) locality sub <i>P. argenteus</i>
o Ramos (2012): locality
o Abreu et al. (2020): listing |
| Tocantins | o Abreu et al. (2020): listing |
| Turiaçu | o Abreu et al. (2020): listing |



Prochilodus nigricans Agassiz, 1829
Castelnau, pl. 31, fig. 3

P. nigricans Agassiz, 1829

- > *Prochilodus nigricans* Agassiz, 1829
- Prochilodus cephalotes* Cope, 1878
- Prochilodus ortonianus* Cope, 1878
- Prochilodus caudifasciatus* Starks, 1906
- Curimatus tigris* Fowler, 1913
- Prochilodus beni* Pearson, 1924
- Prochilodus labeo* Loubens, Lauzanne & Géry, 1991

records

- | | |
|---------------|--|
| Itapecuru | o Piorski et al. (1998): listing
o Abreu et al. (2019): listing |
| Mearim | o Abreu et al. (2019): listing |
| Tocantins | o Castro & Vari (2004): specimens
o Garavello et al. (2010): locality |
| Turiaçu | o Abreu et al. (2019): listing |
| Litoral Ocíd. | o Abreu et al. (2019): listing |

Prochilodontidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Prochilodus brevis Steindachner, 1875 | in Abreu et al. (2019) for Mearim basin

family **Lebiasinidae**

subfamily Pyrrhulininae

Copella Myers, 1956

C. arnoldi (Regan, 1912)

Copeina arnoldi Regan, 1912

Copeina carsevennensis Regan, 1912

records

- | | |
|-----------|--|
| Mearim | <ul style="list-style-type: none"> ○ Guimarães et al. (2020b): specimens ○ Guimarães et al. (2020d): listing ○ Guimarães et al. (2021a): specimens ○ Guimarães et al. (2021b): listing |
| Munim | <ul style="list-style-type: none"> ○ Matavelli et al. (2015): specimens ○ Lima (2017): listing ○ Guimarães et al. (2018): locality ○ Oliveira et al. (2020): specimens |
| Preguiças | <ul style="list-style-type: none"> ○ Guimarães et al. (2018): locality |
| Tocantins | <ul style="list-style-type: none"> ○ Guimarães et al. (2020d): listing ○ Guimarães et al. (2021a): specimens |
| MA state | <ul style="list-style-type: none"> ○ Marinho & Menezes (2017): specimens |

Nannostomus Günther, 1872

N. beckfordi Günther, 1872

Nannostomus beckfordi Günther, 1872

Nannostomus anomalus Steindachner, 1876

Nannostomus aripirangensis Meinken, 1931

Nannostomus simplex Eigenmann, 1909

Nannostomus beckfordi surinami Hoedeman, 1954

records

- | | |
|------------|--|
| Itapecuru | <ul style="list-style-type: none"> ○ Abreu et al. (2019): listing ○ Guimarães et al. (2020a): specimens |
| Maracaçumé | <ul style="list-style-type: none"> ○ Abreu et al. (2019): listing ○ Guimarães et al. (2020a): specimens |
| Mearim | <ul style="list-style-type: none"> ○ Matavelli et al. (2015): specimens sub <i>N. nitidus</i> ○ Abreu et al. (2019): listing sub <i>N. beckfordi</i> and <i>N. unifasciatus</i> ○ Guimarães et al. (2020a): specimens ○ Guimarães et al. (2020b): specimens ○ Guimarães et al. (2020d): listing ○ Guimarães et al. (2021a): specimens ○ Guimarães et al. (2021b): listing |
| Munim | <ul style="list-style-type: none"> ○ Guimarães et al. (2018): locality ○ Abreu et al. (2019): listing ○ Guimarães et al. (2020a): specimens ○ Oliveira et al. (2020): specimens |
| Parnaíba | <ul style="list-style-type: none"> ○ Zarske (2011): specimens ○ Matavelli et al. (2015): specimens sub <i>N. nitidus</i> ○ Guimarães et al. (2020a): specimens |
| Periá | <ul style="list-style-type: none"> ○ Abreu et al. (2019): listing ○ Brito et al. (2020): specimens ○ Guimarães et al. (2020a): specimens |
| Preguiças | <ul style="list-style-type: none"> ○ Guimarães et al. (2018): locality ○ Abreu et al. (2019): listing ○ Brito et al. (2019): specimens ○ Brito et al. (2020): specimens ○ Guimarães et al. (2020a): specimens |
| Tocantins | <ul style="list-style-type: none"> ○ Guimarães et al. (2020d): listing ○ Guimarães et al. (2021a): listing |

Lebiasinidae - species considered not to be distributed in Maranhão

Nannostomus nitidus Weitzman, 1978 | in Matavelli et al. (2015) | Guimarães et al. (2020a)

Nannostomus unifasciatus Steindachner, 1876 | in Abreu et al. (2019) | Guimarães et al. (2020a)

family **Ctenoluciidae**

Boulengerella Eigenmann, 1903

B. cuvieri (Spix & Agassiz, 1829)

> *Xiphostoma cuvieri* Spix & Agassiz, 1829

Xiphostoma ocellatum Jardine, 1841
Xiphostoma oseryi Castelnau, 1855
Xiphostoma longipinne Steindachner, 1876

records

- | | |
|-----------|---------------------------------------|
| Tocantins | ○ Garavello et al. (2010): locality |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |
| Turiaçu | ○ Abreu et al. (2019): listing |



Boulengerella cuvieri (Spix & Agassiz, 1829) | Spix & Agassiz, pl. 42

family

Chalceidae

Mirande (2019)

Chalceus Cuvier, 1818

C. epakros Zanata & Toledo-Piza, 2004

Chalceus epakros Zanata & Toledo-Piza, 2004

records

- | | |
|-----------|--|
| Tocantins | ○ Garavello et al. (2010): locality sub <i>C. macrolepidotus</i> |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |

Chalceidae - species considered not to be distributed in Maranhão

Chalceus macrolepidotus Cuvier, 1818 | in Garavello et al. (2010) | Zanata & Toledo-Piza (2004)

family

Iguanodectidae

Mirande (2019)

Bryconops Kner, 1858

B. affinis (Günther, 1864)

Tetragonopterus affinis Günther, 1864

records

- | | |
|-----------|--|
| Periá | ○ Brito et al. (2020): specimens sub <i>B. cf. affinis</i> |
| Preguiças | ○ Brito et al. (2020): specimens sub <i>B. cf. affinis</i> |

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

B. caudomaculatus (Günther, 1864)

Tetragonopterus caudomaculatus Günther, 1864

records

- | | |
|-----------|---|
| Itapecuru | ○ Abreu et al. (2019): listing |
| Mearim | ○ Guimarães et al. (2020b): specimens sub <i>B. aff. caudomaculatus</i> |
| | ○ Guimarães et al. (2020d): listing sub <i>B. aff. caudomaculatus</i> |
| | ○ Guimarães et al. (2021a): specimens sub <i>B. aff. caudomaculatus</i> |

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

B. gracilis (Eigenmann, 1908)*Cretochanes gracilis* Eigenmann, 1908

records

Tocantins ○ Silva-Oliveira et al. (2021): specimens

B. melanurus (Bloch, 1794)> *Salmo melanurus* Bloch, 1794*Cretochanes melanurus* var. *transitoria* Steindachner, 1915*Cretochanes cyrtogaster* Norman, 1926

records

Itapecuru ○ Steindachner (1917) locality sub *Cretochanes m.*Parnaíba ○ Steindachner (1917) locality sub *Cretochanes m.*

Preguiças ○ Abreu et al. (2019): listing

○ Brito et al. (2020): specimens sub *B. cf. melanurus*

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').



Bryconops melanurus (Bloch, 1794)
Bloch, pl. 381, fig. 2

Iguanodectes Cope, 1872**I. spilurus** (Günther, 1864)*Piabuca spilurus* Günther, 1864*Iguanodectes tenuis* Cope, 1872

records

Tocantins ○ Guimarães et al. (2020d): listing
○ Guimarães et al. (2021a): specimens**Piabucus** Oken, 1817**P. dentatus** (Koelreuter, 1763)*Trutta dentata* Koelreuter, 1763*Salmo argentinus* Linnaeus, 1766

records

Mearim ○ Guimarães et al. (2017): specimens
○ Guimarães et al. (2020b): specimens
○ Guimarães et al. (2020d): listing
○ Guimarães et al. (2021a): specimens**Iguanodectidae - species considered not to be distributed in Maranhão**

Tetragonopterus affinis Günther, 1864 | sub *Bryconops affinis* in Abreu et al. (2019) for Peria and Preguiças basins | Buckup (2003)

family

Acestrorhynchidae

Mirande (2019)

subfamily

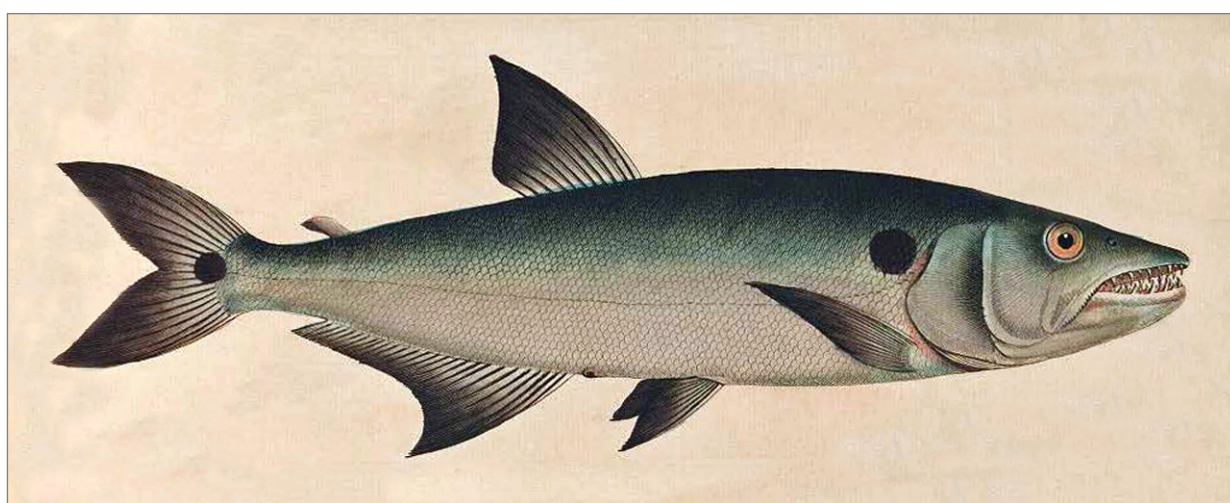
Acestrorhynchinae

Acestrorhynchus Eigenmann & Kennedy, 1903**A. falcatus** (Bloch, 1794)*Salmo pulverulentus* Linnaeus, 1758> *Salmo falcatus* Bloch, 1794*Xiphorhamphus ferox* Günther, 1863

Acestrorhynchus falcatus varius Menezes, 1969

records

- Gurupi
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens
- Itapecuru
 - o Abreu et al. (2019): listing
- Mearim
 - o Abreu et al. (2019): listing
 - o Guimarães et al. (2020b): specimens
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens
 - o Guimarães et al. (2021b): listing
- Munim
 - o Lima (2017): listing sub *A. cf. falcatus*
- Parnaíba
 - o Ramos (2012): locality
- Periá
 - o Abreu et al. (2019): listing
 - o Brito et al. (2020): specimens
- Preguiças
 - o Lima (2017): listing sub *A. cf. falcatus*
 - o Abreu et al. (2019): listing
 - o Brito et al. (2019): specimens
 - o Brito et al. (2020): specimens
- Tocantins
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens
- Turiação
 - o Dourado et al. (2015): specimens



Acestrorhynchus falcatus (Bloch, 1794) | Bloch, pl. 385

A. heterolepis (Cope, 1878)

Xiphorhamphus heterolepis Cope, 1878

records

- Turiação
 - o Dourado et al. (2015): specimens
 - o Abreu et al. (2019): listing

Acestrorhynchidae - species considered not to be distributed in Maranhão

Xiphorhamphus lacustris Lütken, 1875 | sub *Acestrorhynchus lacustris* in Abreu et al. (2019) for Itapecuru, Mearim, and Turiação basins; and sub *Acestrorhynchus cf. lacustris* in Barros et al. (2011) for Itapecuru basin | Menezes (2003, 2007)

family

Bryconidae

Mirande (2019)

subfamily

Bryconinae

Brycon Müller & Troschel, 1844

B. falcatus Müller & Troschel, 1844

- ?*Chalceus labrosus* Jardine, 1841
- Brycon falcatus* Müller & Troschel, 1844
- Brycon schomburgkii* Müller & Troschel, 1844
- Brycon breviceuda* Günther, 1864
- Brycon stuebelii* Steindachner, 1882
- Brycon bicolor* Pellegrin, 1909
- Brycon matrinchao* Fowler, 1941

records
 Tocantins ○ Lima (2017): specimens

family **Gasteropelecidae** Mirande (2019)

Gasteropelecus Scopoli, 1777

G. sternicla (Linnaeus, 1758)

Clupea sternicla Linnaeus, 1758
Salmo gasteropelecus Pallas, 1770
Gasteropelecus argenteus Lacepède, 1803
Gasteropelecus coronatus Allen, 1942
Gasteropelecus sternicla marowini Hoedeman, 1952
Gasteropelecus sternicla morae Hoedeman, 1952

records
 Itapecuru ○ Guimarães et al. (2017): specimens
 Maracaçumé ○ Abreu et al. (2019): listing
 Mearim ○ Guimarães et al. (2017): specimens
 ○ Abreu et al. (2019): listing
 ○ Guimarães et al. (2020b): specimens
 ○ Guimarães et al. (2020d): listing
 ○ Guimarães et al. (2021a): specimens
 ○ Guimarães et al. (2021b): listing
 Munim ○ Guimarães et al. (2017): specimens
 ○ Lima (2017): listing

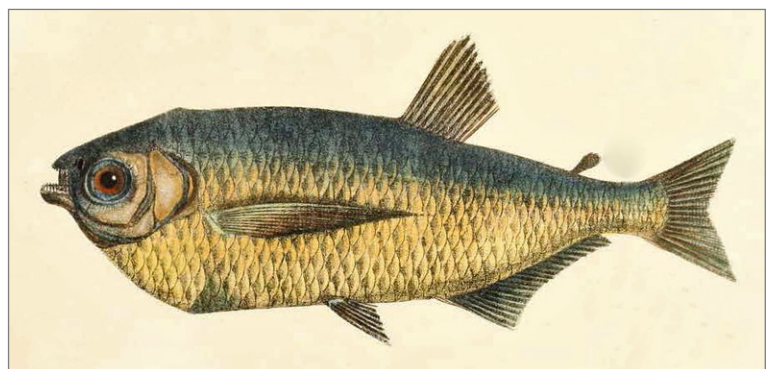
family **Agoniatidae** Mirande (2019)

Triportheus Cope, 1872

T. albus Cope, 1872

Triportheus albus Cope, 1872
Chalcinus knerii Steindachner, 1876

records
 Tocantins ○ Garavello et al. (2010): locality
 collections
 Tocantins ○ MNRJ 39655, 39769
 ○ UNT 3931, 4027, 6809, 6815, 8087
 remarks
 This species needs verification as no direct match between literature and collection lots is available.



Triportheus angulatus (Spix & Agassiz, 1829)
 Spix & Agassiz, pl. 34

T. angulatus (Spix & Agassiz, 1829)

> *Chalceus angulatus* Spix & Agassiz, 1829
Chalcinus muellerii De Filippi, 1853
Triportheus flavus Cope, 1872
Chalcinus angulatus fuscus Garman, 1890
Chalcinus angulatus vittatus Garman, 1890

records
 Mearim ○ Soares (2013): listing
 ○ Abreu et al. (2019): listing

- | | |
|--------------------|---|
| Tocantins | o Garavello et al. (2010): locality |
| Turiaçu | o Abreu et al. (2019): listing |
| MA state | o Latini et al. (2016): locality as introduced species translocated from other areas of Brazil |
| collections | |
| Tocantins | o MZUSP 87283 |
| Turiaçu | o MPEG 2999 |
| remarks | This species needs verification as no direct match between literature and collection lots is available. |

T. auritus (Valenciennes, 1850)

Chalcinus auritus Valenciennes, 1850
Chalcinus elongatus Günther, 1864
Chalcinus amazonensis Miranda Ribeiro, 1941
Chalcinus cruzi Miranda Ribeiro, 1941

- | | |
|--------------------|---|
| records | |
| Tocantins | o Garavello et al. (2010): locality |
| collections | |
| Tocantins | o MNRJ 39671, 39738, 48065, 48093 |
| remarks | This species needs verification as no direct match between literature and collection lots is available. |

T. signatus (Garman, 1890)

Chalcinus angulatus signatus Garman, 1890

- | | |
|----------------|---|
| records | |
| Itapecuru | o Piorski et al. (1998): listing
o Barros et al. (2011): listing
o Abreu et al. (2019): listing |
| Mearim | o Malabarba (2004): specimens
o Abreu et al. (2019): listing
o Guimarães et al. (2020b): specimens
o Guimarães et al. (2020d): listing
o Guimarães et al. (2021a): specimens
o Guimarães et al. (2021b): listing |
| Munim | o Ribeiro et al. (2014): locality |
| Parnaíba | o Ramos (2012): locality |
| Turiaçu | o Abreu et al. (2019): listing |

family **Characidae** Mirande (2019)

subfamily Stethaprioninae

tribus Stethaprionini

Brachyhalcinus Boulenger, 1892

B. parnaíbae Reis, 1989

Brachyhalcinus parnaíbae Reis, 1989

- | | |
|----------------|--|
| records | |
| Mearim | o Guimarães et al. (2020b): specimens
o Guimarães et al. (2020d): listing
o Guimarães et al. (2021a): specimens
o Guimarães et al. (2021b): listing |
| Parnaíba | o Melo et al. (2017): specimens
o Garcia-Ayala & Benine (2020): specimens |
| Periá | o Brito et al. (2019): specimens
o Brito et al. (2020): specimens |

Gymnocorymbus Eigenmann, 1908

G. thayeri Eigenmann, 1908

Gymnocorymbus thayeri Eigenmann 1908

- | | |
|----------------|---|
| records | |
| Itapecuru | o Steindachner (1917) locality sub <i>Moenkhausia ternetzi</i> |
| Maracaçumé | o Benine et al. (2015): specimens |
| Parnaíba | o Steindachner (1917) locality sub <i>Moenkhausia ternetzi</i>
o Benine et al. (2015): specimens |

Hemigrammus Gill, 1858

H. levis Durbin, 1918

Hemigrammus levis Durbin, 1918

records

- Tocantins
- Guimarães et al. (2020d): listing sub *H. cf. levis*
 - Guimarães et al. (2021a): specimens sub *H. cf. levis*

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

H. lunatus Durbin, 1918*Hemigrammus lunatus* Durbin, 1918*Hyphessobrycon maxillaris* Fowler, 1932

records

- Tocantins
- Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

H. ocellifer (Steindachner, 1882)*Tetragonopterus ocellifer* Steindachner, 1882

records

- Mearim
- Abreu et al. (2019): listing
 - Guimarães et al. (2020b): specimens sub *H. aff. ocellifer*
 - Guimarães et al. (2020d): listing sub *H. aff. ocellifer*
 - Guimarães et al. (2021a): specimens sub *H. aff. ocellifer*
 - Guimarães et al. (2021b): listing sub *H. aff. ocellifer*
- Tocantins
- Guimarães et al. (2020d): listing sub *H. aff. ocellifer*
 - Guimarães et al. (2021a): specimens sub *H. aff. ocellifer*

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

H. ora Zarske, Le Bail & Géry, 2006*Hemigrammus ora* Zarske, Le Bail & Géry, 2006

records

- Tocantins
- Jerep et al. (2011): specimens

H. rodwayi Durbin, 1909*Hemigrammus rodwayi* Durbin, 1909*Hemigrammus armstrongi* Schultz & Axelrod, 1955

records

- Gurupi
- Abreu et al. (2019): listing
 - Guimarães et al. (2020d): listing sub *H. cf. rodwayi*
 - Guimarães et al. (2021a): specimens sub *H. cf. rodwayi*
- Maracaçumé
- Abreu et al. (2019): listing
- Mearim
- Abreu et al. (2019): listing
 - Guimarães et al. (2020b): specimens sub *H. cf. rodwayi*
 - Guimarães et al. (2020d): listing sub *H. cf. rodwayi*
 - Guimarães et al. (2021a): specimens sub *H. cf. rodwayi*
 - Guimarães et al. (2021b): listing sub *H. cf. rodwayi*
- Parnaíba
- Zanata et al. (2018): listing
- Tocantins
- Guimarães et al. (2020d): listing sub *H. cf. rodwayi*
 - Guimarães et al. (2021a): specimens sub *H. cf. rodwayi*

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

Hyphessobrycon Durbin, 1908***H. caru*** Guimarães, Brito, Feitosa, Costa & Ottoni, 2019*Hyphessobrycon caru* Guimarães et al., 2019

type locality Buriticupu municipality, Buritizinho river, Pindaré-Mearim basin

records

- Mearim
- Guimarães et al. (2019): type locality
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020c): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Guimarães et al. (2021b): listing

H. frickei Guimarães, Brito, Bragança, Katz & Ottoni, 2020*Hyphessobrycon frickei* Guimarães et al., 2020

records

- Maracaçumé
- Guimarães et al. (2020c): type locality

- H. geryi** Guimarães, Brito, Bragança, Katz & Ottoni, 2020
Hyphessobrycon geryi Guimarães et al., 2020
 records
 Tocantins ○ Guimarães et al. (2020c): paratype locality
 ○ Guimarães et al. (2021a): specimens
- H. heterorhabdus** (Ulrey, 1894)
Tetragonopterus heterorhabdus Ulrey, 1894
 records
 Tocantins ○ Guimarães et al. (2020d): listing sub *H. cf. heterorhabdus*
 ○ Guimarães et al. (2021a): specimens sub *H. cf. heterorhabdus*
 remarks This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').
- H. piorskii** Guimarães, Brito, Feitosa, Carvalho-Costa & Ottoni, 2018
Hyphessobrycon piorskii Guimarães et al., 2018
 type locality stream at the Anapurus municipality, Munim basin
 records
 Itapecuru ○ Guimarães et al. (2019): specimens
 Munim ○ Guimarães et al. (2018a): type locality
 ○ Guimarães et al. (2018b): locality
 ○ Guimarães et al. (2019): specimens
 ○ Guimarães et al. (2020c): specimens
 ○ Oliveira et al. (2020): specimens
 Peria ○ Brito et al. (2020): specimens
 Preguiças ○ Guimarães et al. (2018a): paratype locality
 ○ Guimarães et al. (2018b): listing
 ○ Brito et al. (2019): specimens
 ○ Brito et al. (2020): specimens
 ○ Guimarães et al. (2020c): specimens
- Moenkhausia** Eigenmann, 1903
- M. cotinho** Eigenmann, 1908
Moenkhausia cotinho Eigenmann, 1908
Knodus albolineatus Holly, 1929
 records
 Preguiças ○ Abreu et al. (2019): listing
 ○ Brito et al. (2020): specimens
- M. dichrourea** (Kner, 1858)
Tetragonopterus dichroureus Kner, 1858
 records
 Parnaiba ○ Ramos (2012): locality
 collections
 Itapecuru ○ MCP 27164
 Mearim ○ MPEG 20799-20806, 21138-21142, 24546, 24581
 ○ MZUEL 15363, 15364
 ○ MZUSP 16498
 Parnaiba ○ NUP 16319
 Tocantins ○ DZSJRP 20828
 ○ MCP 49045
 remarks This species needs verification as no direct match between literature and collection lots is available.
- M. intermedia** Eigenmann, 1908
Moenkhausia dichroureus intermedius Eigenmann, 1908
Moenkhausia lepidura madeirae Fowler, 1913
Astyanax bipunctialbicaudalis Godoy, 1977
 records
 Mearim ○ Abreu et al. (2019): listing
 ○ Guimarães et al. (2020b): specimens sub *M. cf. intermedia*
 ○ Guimarães et al. (2021a): specimens sub *M. aff. intermedia*
 ○ Guimarães et al. (2021b): listing sub *M. cf. intermedia*
 remarks This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').
- M. lepidura** (Kner, 1858)
Tetragonopterus lepidurus Kner, 1858

?*Knodus calliurus* Ahl, 1931

Gymnotichthys hildae Fernández-Yépez, 1950

records

- Tocantins
- Guimarães et al. (2020d): listing sub *M. cf. lepidura*
 - Guimarães et al. (2021a): specimens sub *M. cf. lepidura*

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

M. oligolepis (Günther, 1864)

Tetragonopterus oligolepis Günther, 1864

Tetragonopterus agassizii Steindachner, 1876

records

- Gurupi
- Abreu et al. (2019): listing
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
- Itapecuru
- Guimarães et al. (2016): specimens
 - Lima (2017): listing
- Mearim
- Guimarães et al. (2016): specimens
 - Reia (2018): specimens
 - Abreu et al. (2019): listing
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Guimarães et al. (2021b): listing
- Munim
- Lima (2017): listing
 - Abreu et al. (2019): listing
 - Oliveira et al. (2020): specimens
- Preguiças
- Lima (2017): listing
 - Abreu et al. (2019): listing
 - Brito et al. (2019): specimens
 - Brito et al. (2020): specimens
- Tocantins
- Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

M. sanctaefilomenae (Steindachner, 1907)

Tetragonopterus sanctaefilomenae Steindachner, 1907

records

- Gurupi
- Abreu et al. (2019): listing
- Itapecuru
- Abreu et al. (2019): listing
- Parnaíba
- Reia (2018): specimens

Poptella Eigenmann, 1908

P. compressa (Günther, 1864)

Tetragonopterus compressus Günther, 1864

records

- Gurupi
- Abreu et al. (2019): listing
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
- Itapecuru
- Piorski et al. (1998): listing
 - Barros et al. (2011): listing
 - Abreu et al. (2019): listing
- Maracaçumé
- Abreu et al. (2019): listing
- Mearim
- Reis (1989): specimens
 - Benine et al. (2015): specimens
 - Abreu et al. (2019): listing
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Guimarães et al. (2021b): listing
- Munim
- Abreu et al. (2019): listing
- Parnaíba
- Ramos (2012): locality
- Periá
- Abreu et al. (2019): listing
 - Brito et al. (2020): specimens
- Tocantins
- Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

Pristella Eigenmann, 1908

P. maxillaris (Ulrey, 1894)

Aphyocarax maxillaris Ulrey, 1894

Holopristes riddlei Meek, 1907

records

- | | |
|--------|---------------------------------------|
| Mearim | ○ Guimarães et al. (2020b): specimens |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |
| | ○ Guimarães et al. (2021b): listing |
| Periá | ○ Brito et al. (2020): specimens |

tribus

Rhoadsiini

Thayeria Eigenmann, 1908**T. boehlkei** Weitzman, 1957*Thayeria boehlkei* Weitzman, 1957

records

- | | |
|-----------|---------------------------------------|
| Tocantins | ○ Moreira & Lima (2017): specimens |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |

tribus

Stygichthyini

Jupiaba Zanata, 1997**J. polylepis** (Günther, 1864)*Tetragonopterus polylepis* Günther, 1864

records

- | | |
|-----------|---|
| Parnaíba | ○ Ramos (2012): locality |
| | ○ Melo et al. (2017): specimens |
| | ○ Zanata et al. (2018): listing |
| Tocantins | ○ Guimarães et al. (2020d): listing sub <i>J. cf. polylepis</i> |
| | ○ Guimarães et al. (2021a): specimens sub <i>J. cf. polylepis</i> |

tribus

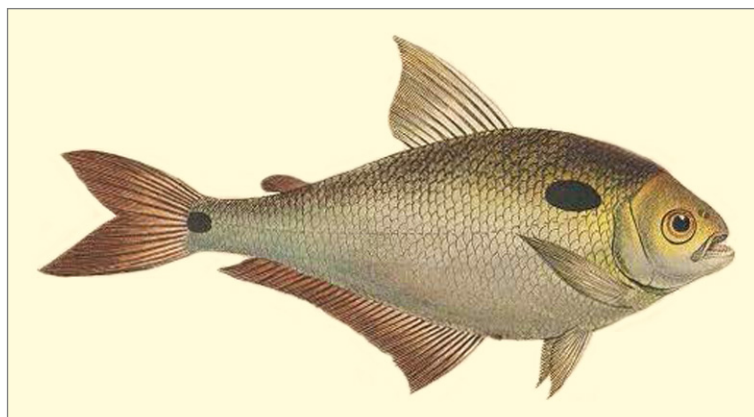
Gymnocharacini

Astyanax Baird & Girard, 1854**A. bimaculatus** (Linnaeus, 1758)> *Salmo bimaculatus* Linnaeus, 1758*Tetragonopterus maculatus* Müller & Troschel, 1845*Tetragonopterus gronovii* Valenciennes, 1850*Tetragonopterus linnaei* Valenciennes, 1850*Tetragonopterus wappi* Valenciennes, 1850*Poecilurichthys brevoortii* Gill, 1858*Tetragonopterus bartlettii* Günther, 1866*Tetragonopterus orientalis* Cope, 1870? *Astyanax bimaculatus* var. *borealis* Eigenmann, 1908*Astyanax rupununi* Fowler, 1914

records

- | | |
|---------------|---|
| Gurupi | ○ Guimarães et al. (2020d): listing sub <i>A. cf. bimaculatus</i> |
| | ○ Guimarães et al. (2021a): listing sub <i>A. cf. bimaculatus</i> |
| Itapecuru | ○ Piorski et al. (1998): listing |
| | ○ Barros et al. (2011): listing |
| | ○ Abreu et al. (2019): listing |
| Maracaçumé | ○ Abreu et al. (2019): listing |
| Mearim | ○ Soares (2013): listing |
| | ○ Abreu et al. (2019): listing |
| | ○ Guimarães et al. (2020b): specimens sub <i>A. cf. bimaculatus</i> |
| | ○ Guimarães et al. (2020d): listing sub <i>A. cf. bimaculatus</i> |
| | ○ Guimarães et al. (2021a): specimens sub <i>A. cf. bimaculatus</i> |
| | ○ Guimarães et al. (2021b): listing sub <i>A. cf. bimaculatus</i> |
| Munim | ○ Abreu et al. (2019): listing |
| | ○ Oliveira et al. (2020): specimens sub <i>A. cf. bimaculatus</i> |
| Periá | ○ Abreu et al. (2019): listing |
| Preguiças | ○ Abreu et al. (2019): listing |
| Tocantins | ○ Guimarães et al. (2020d): listing sub <i>A. cf. bimaculatus</i> |
| | ○ Guimarães et al. (2021a): specimens sub <i>A. cf. bimaculatus</i> |
| Turiaçu | ○ Abreu et al. (2019): listing |
| Litoral Ocid. | ○ Abreu et al. (2019): listing |

remarks This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').



Astyanax bimaculatus (Linnaeus, 1758)
Bloch, pl. 382, fig. 2

A. lacustris (Lütken, 1875)

Tetragonopterus lacustris Lütken, 1875
Tetragonopterus jacuhiensis Cope, 1894
Astyanax bimaculatus paraguayensis Eigenmann, 1921
Astyanax bimaculatus asuncionensis Géry, 1972
Astyanax altiparanae Garutti & Britski, 2000

records

- | | |
|-----------|---|
| Parnaíba | ○ Melo et al. (2017): specimens |
| | ○ Zanata et al. (2018): listing |
| Periá | ○ Brito et al. (2020): specimens sub <i>A. cf. lacustris</i> |
| Preguiças | ○ Brito et al. (2019): specimens sub <i>A. aff. lacustris</i> |
| | ○ Brito et al. (2020): specimens sub <i>A. cf. lacustris</i> |

A. novae Eigenmann, 1911

Astyanax bimaculatus var. *novae* Eigenmann, 1911

records

- | | |
|-----------|---------------------------------------|
| Tocantins | ○ Pastana & Dagosta (2014): specimens |
|-----------|---------------------------------------|

Ctenobrycon Eigenmann, 1908

C. hauxwellianus (Cope, 1870)

Tetragonopterus hauxwellianus Cope, 1870

records

- | | |
|------------|--------------------------------|
| Maracaçumé | ○ Abreu et al. (2019): listing |
| Mearim | ○ Abreu et al. (2019): listing |

collections

- | | |
|------------|----------------------------|
| Itapecuru | ○ MCP 25621, 25624, 25625 |
| Maracaçumé | ○ MCP 25620 |
| Mearim | ○ MCP 25647 |
| | ○ MPEG 31565, 31566, 31584 |
| Parnaíba | ○ MCP 25645 |
| Tocantins | ○ ANSP 150101 |
| | ○ MNRJ 39758, 49837 |

remarks

This species needs verification as no direct match between literature and collection lots is available.

C. spilurus (Valenciennes, 1850)

Tetragonopterus spilurus Valenciennes, 1850

Apodastyanax stewardsoni Fowler, 1911

records

- | | |
|-----------|--|
| Mearim | ○ Abreu et al. (2019): listing |
| | ○ Guimarães et al. (2020b): specimens sub <i>C. cf. spilurus</i> |
| | ○ Guimarães et al. (2020d): listing sub <i>C. cf. spilurus</i> |
| | ○ Guimarães et al. (2021a): specimens sub <i>C. cf. spilurus</i> |
| Tocantins | ○ Guimarães et al. (2020d): listing sub <i>C. cf. spilurus</i> |
| | ○ Guimarães et al. (2021a): specimens sub <i>C. cf. spilurus</i> |

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

Makunaima Terán, Benitez & Mirande, 2020

M. multidens (Eigenmann, 1908)

Astyanax multidens Eigenmann, 1908

records

- | | |
|-----------|---------------------------------------|
| Tocantins | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |

Psellogrammus Eigenmann, 1908

P. kennedyi (Eigenmann, 1903)

Hemigrammus kennedyi Eigenmann, 1903

records

- | | |
|----------|---------------------------------------|
| Mearim | ○ Guimarães et al. (2020c): specimens |
| | ○ Guimarães et al. (2021b): listing |
| Parnaíba | ○ Ramos (2012): locality |
| | ○ Melo et al. (2017): specimens |

Stethaprioninae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Hyphessobrycon bentosi Durbin, 1908 | in Abreu et al. (2019) for Peria and Preguiças basins

Hyphessobrycon stegemanni Géry, 1961 | in Marinho et al. (2014) photo of alive specimen from Tocantins basin

Stethaprioninae - species considered not to be distributed in Maranhão

Chalceus fasciatus Cuvier, 1819 | sub *Astyanax fasciatus* in Abreu et al. (2019) for Itapecuru basin and in Zanata et al. (2018) for Parnaíba basin | Melo & Buckup (2006)

subfamily

Tetragonopterinae

Tetragonopterus Cuvier, 1816

T. argenteus Cuvier, 1816

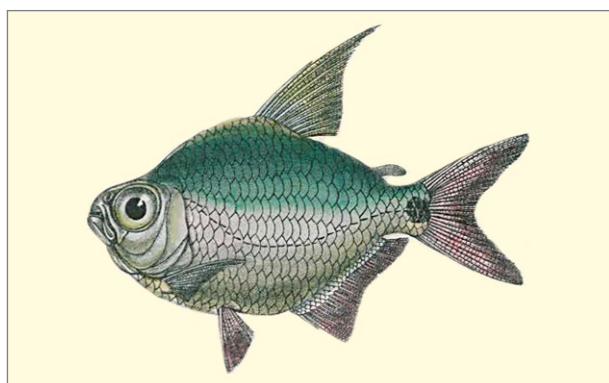
Tetragonopterus argenteus Cuvier, 1816

> *Tetragonopterus sawa* Castelnau, 1855

Tetragonopterus huberi Steindachner, 1909

records

- | | |
|-----------|---------------------------------------|
| Mearim | ○ Guimarães et al. (2020b): specimens |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |
| | ○ Guimarães et al. (2021b): listing |
| Parnaíba | ○ Melo et al. (2011): specimens |
| | ○ Ramos (2012): locality |
| | ○ Silva et al. (2013): specimens |
| | ○ Silva et al. (2016): specimens |
| | ○ Melo et al. (2017): specimens |
| Tocantins | ○ Araujo & Lucinda (2014): specimens |



Tetragonopterus sawa Castelnau, 1855, jr. synonym of *T. argenteus* Cuvier, 1816 | Castelnau, pl. 33, fig. 1



Tetragonopterus chalceus Agassiz, 1829 Spix & Agassiz, pl. 33, fig. 1

T. chalceus Agassiz, 1829

- > *Tetragonopterus chalceus* Agassiz, 1829
- Tetragonopterus gibbosus* Steindachner, 1877

records

- | | |
|-----------|---------------------------------------|
| Tocantins | ○ Silva et al. (2016): specimens |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |
| Turiaçu | ○ Abreu et al. (2019): listing |

subfamily

Characinae

Charax Scopoli, 1777***C. awa*** Guimarães, Brito, Ferreira & Ottoni, 2018*Charax awa* Guimarães, Brito, Ferreira & Ottoni, 2018

type locality Igarapé Mineirão, Alto Alegre do Pindaré, Mearim basin

records

- | | |
|---------|---|
| Mearim | ○ Guimarães et al. (2018c): type locality |
| | ○ Guimarães et al. (2020b): specimens |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |
| | ○ Guimarães et al. (2021b): listing |
| Munim | ○ Guimarães et al. (2018c): paratype locality |
| | ○ Nunes et al. (2019): listing |
| Turiaçu | ○ Guimarães et al. (2018c): paratype locality |

C. leticiae Lucena, 1987*Charax leticiae* Lucena, 1987

records

- | | |
|-----------|---------------------------------------|
| Itapecuru | ○ Piorski et al. (1998): listing |
| | ○ Guimarães et al. (2018c): specimens |
| | ○ Abreu et al. (2019): listing |
| Munim | ○ Abreu et al. (2019): listing |
| Turiaçu | ○ Abreu et al. (2019): listing |

C. pauciradiatus (Günther, 1864)*Anacyrtus pauciradiatus* Günther, 1864

records

- | | |
|-----------|---------------------------------------|
| Gurupi | ○ Guimarães et al. (2018c): specimens |
| Tocantins | ○ Guimarães et al. (2018c): specimens |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |

Cynopotamus Valenciennes, 1850***C. tocantinensis*** Menezes, 1987*Cynopotamus tocantinensis* Menezes, 1987

records

- | | |
|-----------|---------------------------------------|
| Tocantins | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |

Galeocharax Fowler, 1910***G. gulo*** (Cope, 1870)*Cynopotamus gulo* Cope, 1870*Anacyrtus knerii* Steindachner, 1879

records

- | | |
|----------|---|
| MA state | ○ Giovannetti et al. (2017): specimens |
| remarks | Guimarães et al. (2021a) list specimens from the Tocantins basin in Pará, very close to the border with Maranhão. |

Phenacogaster Eigenmann, 1907***P. calverti*** (Fowler, 1941)*Grammabrycon calverti* Fowler, 1941

records

- | | |
|----------|---------------------------------|
| Parnaíba | ○ Ramos (2012): locality |
| | ○ Zanata et al. (2018): listing |

- collections
 Parnaíba ○ MZUSP 87510
 Tocantins ○ MPEG 20681
 remarks This species needs verification as no direct match between literature and collection lots is available.

P. pectinata (Cope, 1870)*Tetragonopterus pectinatus* Cope, 1870

records

- Maracaçumé ○ Abreu et al. (2019): listing
 Mearim ○ Abreu et al. (2019): listing
 ○ Guimarães et al. (2020b): specimens sub *P. cf. pectinata*
 ○ Guimarães et al. (2020d): listing sub *P. aff. pectinata*
 ○ Guimarães et al. (2021a): specimens sub *P. aff. pectinata*
 remarks This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

Roeboides Günther, 1864***R. affinis*** (Günther, 1868)*Anacyrtus affinis* Günther, 1868*Roeboides bicornis* Cope, 1870*Anacyrtus prognathus* Boulenger, 1895*Roeboides thurni* Eigenmann, 1912

records

- Gurupi ○ Guimarães et al. (2020d): listing
 ○ Guimarães et al. (2021a): specimens
 Mearim ○ Abreu et al. (2019): listing

R. margareteae Lucena, 2003*Roeboides margareteae* Lucena, 2003

type locality Lago do Viana, Pindaré-Mearim basin

records

- Itapecuru ○ Barros et al. (2011): listing
 ○ Brito et al. (2018): locality
 ○ Abreu et al. (2019): listing
 Mearim ○ Lucena (2003): type locality
 ○ Ramos (2012): locality
 ○ Brito et al. (2018): listing
 ○ Abreu et al. (2019): listing
 ○ Guimarães et al. (2020b): specimens
 ○ Guimarães et al. (2020d): listing
 ○ Guimarães et al. (2021a): specimens
 ○ Guimarães et al. (2021b): listing
 Munim ○ Brito et al. (2018): listing
 Parnaíba ○ Brito et al. (2018): listing

R. sazimai Lucena, 2007*Roeboides sazimai* Lucena, 2007

type locality Rio Pindaré, Santa Inês

records

- Itapecuru ○ Barros et al. (2011): listing
 ○ Abreu et al. (2019): listing
 Mearim ○ Lucena (2007): type locality
 ○ Abreu et al. (2019): listing
 ○ Guimarães et al. (2020b): specimens
 ○ Guimarães et al. (2020d): listing
 ○ Guimarães et al. (2021a): specimens
 ○ Guimarães et al. (2021b): listing
 Munim ○ Abreu et al. (2019): listing
 Parnaíba ○ Ramos (2012): locality
 ○ Melo et al. (2017): specimens

Characinae - species considered not to be distributed in Maranhão

Salmo gibbosus Linnaeus, 1758 | sub *Charax gibbosus* in Soares (2013) for Mearim basin, and Abreu et al. (2019) for Munim basin | Lucena & Menezes (2003), Menezes & Lucena (2014)

subfamily

Aphyocharacinae

Aphyocharax Günther, 1868

A. avary Fowler, 1913*Aphyocharax avary* Fowler, 1913

records

Itapecuru ○ Souza-Lima (2003): specimens

A. brevicaudatus Brito, Guimarães, Carvalho-Costa & Ottoni, 2019*Aphyocharax brevicaudatus* Brito et al., 2019

type locality Maracaçumé municipality, Maracaçumé River

records

Maracaçumé ○ Brito et al. (2019a): type locality

subfamily

Cheirodontinae

Compsura Eigenmann, 1915**C. heterura** Eigenmann, 1915*Compsura heterura* Eigenmann, 1915

records

Parnaíba ○ Jerep (2011): specimens
○ Ramos (2012): locality
○ Zanata et al. (2018): listing**Serrapinnus** Malabarba, 1998**S. heterodon** (Eigenmann, 1915)*Holesthes heterodon* Eigenmann, 1915*Odontostilbe iheringi* Fowler, 1941

records

Parnaíba ○ Ramos (2012): locality
○ Melo et al. (2017): specimens
○ Zanata et al. (2018): listing**S. piaba** (Lütken, 1875)*Chirodon piaba* Lütken, 1875

records

Parnaíba ○ Ramos (2012): locality
○ Melo et al. (2017): specimens
○ Zanata et al. (2018): listing

subfamily

Stevardiinae

tribus

Creagrutini

Creagrutus Günther, 1864**C. menezesi** Vari & Harold, 2001*Creagrutus menezesi* Vari & Harold, 2001

records

Tocantins ○ Vari & Harold (2001): specimens

tribus

Diapomini

Knodus Eigenmann, 1911**K. victoriae** (Steindachner, 1907)*Tetragonopterus victoriae* Steindachner, 1907type locality tributary of Rio Parnaíba near Alto Parnaíba
(formerly Victoria)

records

Mearim ○ Guimarães et al. (2020b): specimens
○ Guimarães et al. (2020d): listing sub *K. aff. victoriae*
○ Guimarães et al. (2021a): specimens sub *K. aff. victoriae*
○ Guimarães et al. (2021b): listing
Munim ○ Oliveira et al. (2020): specimens
Parnaíba ○ Steindachner (1907): type locality
○ Ramos (2012): locality

- MA state
- Aguiar et al. (2021): review of type locality
 - Silva (2003): listing
 - Lima et al. (2007): listing

order **GYMNOTIFORMES**

family **Apteronotidae**

subfamily Apteronotinae

Apteronotus Lacepède, 1800

A. albifrons (Linnaeus, 1766)

Gymnotus albifrons Linnaeus, 1766

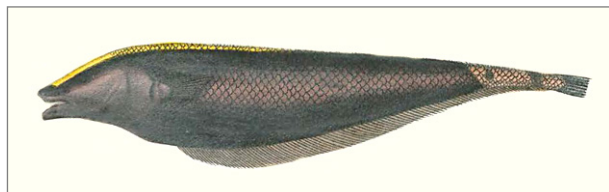
Apteronotus passan Lacepède, 1800

Sternarchus lacepedii Castelnau, 1855

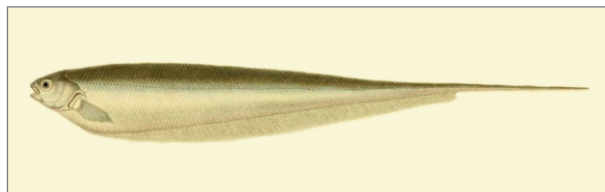
> *Sternarchus maximilliani* Castelnau, 1855

records

- | | |
|-----------|---|
| Itapecuru | ○ Barros et al. (2011): listing sub <i>A. cf. albifrons</i> |
| | ○ Lima (2017): listing |
| | ○ Abreu et al. (2019): listing |
| Munim | ○ Abreu et al. (2019): listing |
| Preguiças | ○ Brito et al. (2020): specimens |
| Turiaçu | ○ Abreu et al. (2019): listing |



Sternarchus maximilliani Castelnau, 1855, jr. synonym of *Apteronotus albifrons* (Linnaeus, 1766) | Cast., pl. 45, fig. 4



Eigenmannia virescens (Valenciennes, 1842) Valenciennes, pl. 13, fig. 2

family **Sternopygidae**

Archolaemus Korringa, 1970

A. blax Korringa, 1970

Archolaemus blax Korringa, 1970

records

- | | |
|-----------|---------------------------------|
| Tocantins | ○ Vari et al. (2012): specimens |
|-----------|---------------------------------|

Eigenmannia Jordan & Evermann, 1896

E. virescens (Valenciennes, 1842)

> *Sternarchus virescens* Valenciennes, 1842

Sternopygus lineatus Müller & Troschel, 1849

Sternopygus tumifrons Müller & Troschel, 1849

records

- | | |
|-----------|---|
| Itapecuru | ○ Piorski et al. (1998): listing sub <i>E. cf. virescens</i> |
| | ○ Lima (2017): listing sub <i>E. cf. virescens</i> |
| | ○ Abreu et al. (2019): listing |
| Mearim | ○ Abreu et al. (2019): listing |
| | ○ Guimarães et al. (2020b): specimens |
| | ○ Guimarães et al. (2020d): listing sub <i>E. cf. virescens</i> |
| | ○ Guimarães et al. (2021a): specimens sub <i>E. cf. virescens</i> |
| | ○ Guimarães et al. (2021b): listing |
| Munim | ○ Lima (2017): listing sub <i>E. cf. virescens</i> |
| | ○ Abreu et al. (2019): listing |
| Parnaíba | ○ Ramos (2012): locality |
| Periá | ○ Abreu et al. (2019): listing |

- Preguiças
 - Brito et al. (2020): specimens
 - Lima (2017): listing sub *E. cf. virescens*
 - Abreu et al. (2019): listing
 - Brito et al. (2019): specimens
- Tocantins
 - Brito et al. (2020): specimens
 - Guimarães et al. (2020d): listing sub *E. cf. virescens*
 - Guimarães et al. (2021a): specimens sub *E. cf. virescens*

Sternopygus Müller & Troschel, 1846**S. macrurus** (Bloch & Schneider, 1801)*Gymnotus macrurus* Bloch & Schneider, 1801*Sternopygus marcgravii* Reinhardt, 1852? *Carapus sanguinolentus* Castelnau, 1855*Hildatia brasiliensis* Fernández-Yépez, 1968

records

- Itapecuru
 - Piorski et al. (1998): listing sub *S. cf. macrurus*
 - Barros et al. (2011): listing
 - Lima (2017): listing
 - Abreu et al. (2019): listing
- Mearim
 - Soares (2013): listing
 - Abreu et al. (2019): listing
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Guimarães et al. (2021b): listing
- Munim
 - Ribeiro et al. (2014): locality
 - Matavelli et al. (2015): specimens
 - Lima (2017): listing
 - Abreu et al. (2019): listing
- Parnaíba
Periá
 - Ramos (2012): locality
 - Abreu et al. (2019): listing
 - Brito et al. (2019): specimens
 - Brito et al. (2020): specimens
- Preguiças
 - Lima (2017): listing
 - Abreu et al. (2019): listing
 - Brito et al. (2020): specimens
- Tocantins
 - Garavello et al. (2010): locality
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
- Turiaçu
 - Abreu et al. (2019): listing

Sternopygidae - unconfirmed species for Maranhão state requiring a verification based on voucher material*Gymnotus aequilabiatu nigriceps* Ihering, 1907 | species inquirenda in Albert (2003) and Ferraris et al. (2017)*Sternopygus limbatus* Schreiner & Miranda Ribeiro, 1903 | sub *Eigenmannia limbata* in Abreu et al. (2019) for Mearim basin

family

Gymnotidae

subfamily

Electrophorinae

Electrophorus Gill, 1864**E. varii** Santana, Wosiacki, Crampton, Sabaj, Dillman, Mendes & Castro, 2019*Electrophorus varii* Santana et al., 2019

records

- Itapecuru
 - Lima (2017): listing sub *E. electricus*
 - Abreu et al. (2019): listing sub *E. electricus*
 - Santana et al. (2019): specimens
- Mearim
 - Spix & Martius (1828: 829): listing sub *Gymnotus electricus*
 - Soares (2013): listing sub *E. electricus*
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

subfamily

Gymnotinae

Gymnotus Linnaeus, 1758**G. carapo** Linnaeus, 1758

Gymnotus carapo Linnaeus, 1758

Gymnotus carapo caatingaensis Craig, Crampton & Albert, 2017

records

- | | |
|-----------|--|
| Itapecuru | <ul style="list-style-type: none"> ○ Albert & Crampton (2003): listing ○ Lima (2017): listing ○ Abreu et al. (2019): listing ○ Aguiar et al. (2019): listing |
| Mearim | <ul style="list-style-type: none"> ○ Soares (2013): listing ○ Abreu et al. (2019): listing ○ Guimarães et al. (2020b): specimens ○ Guimarães et al. (2020d): listing ○ Guimarães et al. (2021a): specimens ○ Guimarães et al. (2021b): listing |
| Munim | <ul style="list-style-type: none"> ○ Lima (2017): listing ○ Oliveira et al. (2020): specimens |
| Periá | <ul style="list-style-type: none"> ○ Abreu et al. (2019): listing ○ Brito et al. (2020): specimens |
| Preguiças | <ul style="list-style-type: none"> ○ Lima (2017): listing |
| Tocantins | <ul style="list-style-type: none"> ○ Guimarães et al. (2020d): listing ○ Guimarães et al. (2021a): specimens |
| Turiaçu | <ul style="list-style-type: none"> ○ Abreu et al. (2019): listing |

Gymnotidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Gymnotus capanema Milhomem et al., 2012 | in Abreu et al. (2019) and Aguiar et al. (2019) for Itapecuru basin

Gymnotidae - species considered not to be distributed in Maranhão

Gymnotus electricus Linnaeus, 1766 | sub *Gymnotus electricus* in Spix & Martius (1828), and sub *Electrophorus electricus* in Lima (2017) and Abreu et al. (2019) | Santana et al. (2019)

family

Hypopomidae

Brachyhypopomus Mago-Leccia, 1994

B. beebei (Schultz, 1944)

Hypopomus beebei Schultz, 1944

records

- | | |
|----------|---|
| MA state | <ul style="list-style-type: none"> ○ Crampton et al. (2016): specimens |
|----------|---|

B. pinnicaudatus (Hopkins, Comfort, Bastian & Bass, 1990)

Hypopomus pinnicaudatus Hopkins, Comfort, Bastian & Bass, 1990

records

- | | |
|--------|---|
| Mearim | <ul style="list-style-type: none"> ○ Crampton et al. (2016): specimens ○ Abreu et al. (2019): listing ○ Guimarães et al. (2020b): specimens ○ Guimarães et al. (2020d): listing ○ Guimarães et al. (2021a): specimens ○ Guimarães et al. (2021b): listing |
| Munim | <ul style="list-style-type: none"> ○ Matavelli et al. (2015): specimens sub <i>Rhabdolichops</i> sp. [fide Crampton et al.(2016)] ○ Lima (2017): listing |

family

Rhamphichthyidae

Gymnorhamphichthys Ellis, 1912

G. rondoni (Miranda Ribeiro, 1920)

Urumara rondoni Miranda Ribeiro, 1920

Gymnorhamphichthys hypostomus petiti Géry & Vu, 1964

records

- | | |
|-----------|--|
| Tocantins | <ul style="list-style-type: none"> ○ Guimarães et al. (2020d): listing ○ Guimarães et al. (2021a): specimens |
|-----------|--|

Rhamphichthys Müller & Troschel, 1846

R. atlanticus Triques, 1999

Rhamphichthys atlanticus Triques, 1999

type locality Lago Viana, Pindare-Mearim basin

records

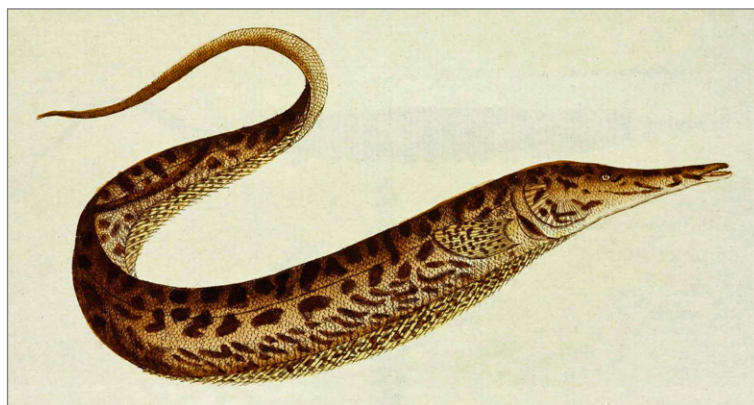
- Itapecuru
 - o Barros et al. (2011): listing
 - o Abreu et al. (2019): listing
- Mearim
 - o Triques (1999): type locality
 - o Carvalho & Albert (2015): specimens
 - o Abreu et al. (2019): listing
 - o Guimarães et al. (2020b): specimens
 - o Guimarães et al. (2020d): listing
- Munim
 - o Ribeiro et al. (2014): locality
- MA state
 - o Campos-da-Paz (2007): listing

R. rostratus (Linnaeus, 1766)

- > *Gymnotus rostratus* Linnaeus, 1766
- Gymnotus longirostratus* Lacepède, 1800
- Rhamphichthys blochii* Kaup, 1856
- Rhamphichthys reinhardti* Kaup, 1856
- Rhamphichthys schneideri* Kaup, 1856
- Rhamphichthys schomburgki* Kaup, 1856

records

- Mearim
 - o Soares (2013): listing
 - o Abreu et al. (2019): listing
- Parnaíba
 - o Ramos (2012): locality
- Tocantins
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens
- Turiaçu
 - o Abreu et al. (2019): listing



Rhamphichthys rostratus (Linnaeus, 1766)
Bloch & Schneider, pl. 106

order **SILURIFORMES**
 family **Trichomycteridae**
 subfamily Trichomycterinae

Ituglanis Costa & Bockmann, 1993

I. amazonicus (Steindachner, 1882)

Trichomycterus amazonicus Steindachner, 1882

records

- Gurupi
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): listing
- Itapecuru
 - o Datovo & Landim (2005): specimens [MCP 23074]
- Tocantins
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens

family **Callichthyidae**

subfamily Callichthyinae

Callichthys Scopoli, 1777

C. callichthys (Linnaeus, 1758)

- > *Silurus callichthys* Linnaeus, 1758
- Callichthys asper* Quoy & Gaimard, 1824

- Cataphractus depressus* Swainson, 1839
- Callichthys asper* Valenciennes, 1840
- Callichthys caelatus* Valenciennes, 1840
- Callichthys laeviceps* Valenciennes, 1840
- Callichthys loricatus* Gronow, 1854
- Callichthys kneri* Gill, 1858
- Callichthys affinis* Günther, 1864
- Callichthys tamoata* Bleeker, 1864
- Callichthys arcifer* Hensel, 1868
- Callichthys hemiphractus* Hensel, 1868
- Callichthys callichthys bolteni* Hoedeman, 1952
- Callichthys callichthys demararae* Hoedeman, 1952

records

- Itapecuru
 - o Barros et al. (2011): listing
 - o Abreu et al. (2019): listing
- Mearim
 - o Abreu et al. (2019): listing
 - o Guimarães et al. (2020b): specimens
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens
 - o Guimarães et al. (2021b): listing
- Munim
 - o Matavelli et al. (2015): specimens
 - o Abreu et al. (2019): listing
- Parnaíba
 - o Matavelli et al. (2015): specimens
- Periá
 - o Brito et al. (2020): specimens
- Preguiças
 - o Abreu et al. (2019): listing
- Tocantins
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens
- Turiaçu
 - o Abreu et al. (2019): listing
- MA state
 - o Latini et al. (2016): listing

remarks

introduced species translocated from other areas of Brazil



Callichthys callichthys (Linnaeus, 1758)
Bloch, pl. 377, fig. 1

Hoplosternum Gill, 1858

H. littorale (Hancock, 1828)

- Callichthys littoraris* Hancock, 1828
- > *Callichthys laevigatus* Valenciennes, 1834
- Callichthys albidus* Valenciennes, 1840
- Callichthys subulatus* Valenciennes, 1840
- Callichthys chiquitos* Castelnau, 1855
- Hoplosternum stevardii* Gill, 1858
- Callichthys melampterus* Cope, 1872
- Hoplosternum schreineri* Miranda Ribeiro, 1911
- Cascadura maculocephala* Ellis, 1913
- Hoplosternum shirui* Fowler, 1940
- Hoplosternum littorale daillyi* Hoedeman, 1952
- Hoplosternum thoracatum cayennae* Hoedeman, 1961

records

- Mearim
 - o Soares (2013): listing
 - o Guimarães et al. (2020b): specimens
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens
 - o Guimarães et al. (2021b): listing

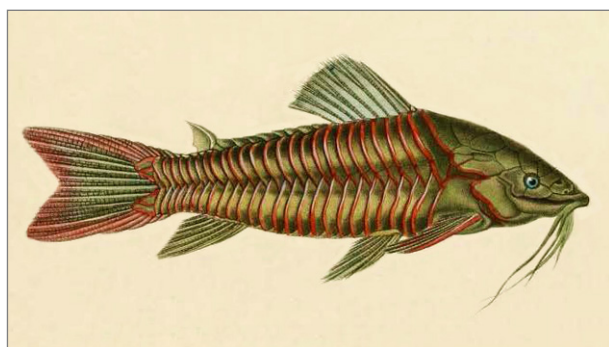
Megalechis Reis, 1997

M. thoracata (Valenciennes, 1840)

Callichthys thoracatus Valenciennes, 1840
Callichthys longifilis Valenciennes, 1840
Callichthys pictus Müller & Troschel, 1848
Callichthys exaratus Müller & Troschel, 1849
Callichthys sulcatus Kner, 1855
Hoplosternum oronocoi Fowler, 1915

records

- Gurupi ○ Abreu et al. (2019): listing
- Itapecuru ○ Lima (2017): listing
 ○ Lima et al. (2017): specimens
 ○ Abreu et al. (2019): listing
- Mearim ○ Soares (2013): listing
 ○ Guimarães et al. (2020b): specimens
 ○ Guimarães et al. (2020d): listing
 ○ Guimarães et al. (2021a): specimens
 ○ Guimarães et al. (2021b): listing
- Munim ○ Lima (2017): listing
 ○ Guimarães et al. (2018): locality
- Preguiças ○ Oliveira et al. (2020): specimens
 ○ Guimarães et al. (2018): locality
- Turiaçu ○ Brito et al. (2020): specimens
 ○ Abreu et al. (2019): listing



Callichthys laevigatus Valenciennes, 1834, jr. synonym of *Hoplosternum littorale* (Hancock, 1828 | Val., pl. 5, fig. 2



Corydoras splendens (Castelnau, 1855) Castelnau, pl. 18, fig. 3

subfamily Corydoradinae

Aspidoras Ihering, 1907

A. raimundi (Steindachner, 1907)

Corydoras raimundi Steindachner, 1907
 type locality tributary of Rio Parnaíba near Alto Parnaíba (formerly Victoria)

records

- Parnaíba ○ Steindachner (1907): type locality
 ○ Nijssen & Isbrücker (1976): specimens, lectotype designation
 ○ Ramos (2012): locality
 ○ Zanata et al. (2018): listing
- MA state ○ Britto (2007): listing

Corydoras Lacepède, 1803

C. brevirostris Fraser-Brunner, 1947

Corydoras melanistius brevirostris Fraser-Brunner, 1947

records

- Tocantins ○ Guimarães et al. (2020d): listing sub *C. cf. brevirostris*
 ○ Guimarães et al. (2021a): specimens sub *C. cf. brevirostris*

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

C. julii Steindachner, 1906*Corydoras julii* Steindachner, 1906type locality tributary of Rio Parnaíba near Alto Parnaíba
(formerly Victoria)

records

- | | |
|-----------|---|
| Itapecuru | ○ Abreu et al. (2019): listing |
| Mearim | ○ Guimarães et al. (2020b): specimens sub <i>C. cf. julii</i> |
| | ○ Guimarães et al. (2020d): listing sub <i>C. cf. julii</i> |
| | ○ Guimarães et al. (2021a): specimens sub <i>C. cf. julii</i> |
| | ○ Guimarães et al. (2021b): listing |
| Parnaíba | ○ Steindachner (1906): type locality |
| | ○ Ramos (2012): locality |
| MA state | ○ Reis (2003): listing |
| | ○ Brito (2007): listing |

C. splendens (Castelnau, 1855)> *Callichthys splendens* Castelnau, 1855*Callichthys taioch* Castelnau, 1855*Brochis coeruleus* Cope, 1872*Brochis dipterus* Cope, 1872*Corydoras semiscutatus* Cope, 1872*Chaenothorax bicarinatus* Cope, 1878*Chaenothorax eigenmanni* Ellis, 1913

records

- | | |
|--------|--|
| Mearim | ○ Abreu et al. (2019): listing |
| | ○ Guimarães et al. (2020d): listing sub <i>C. aff. splendens</i> |
| | ○ Guimarães et al. (2021a): specimens sub <i>C. aff. splendens</i> |
| | ○ Guimarães et al. (2021b): listing sub <i>C. aff. splendens</i> |

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

C. treitlii Steindachner, 1906*Corydoras treitlii* Steindachner, 1906type locality tributary of Rio Parnaíba near Alto Parnaíba
(formerly Victoria)

records

- | | |
|----------|--------------------------------------|
| Parnaíba | ○ Steindachner (1906): type locality |
| | ○ Ramos (2012): locality |
| MA state | ○ Reis (2003): listing |

C. vittatus Nijssen, 1971*Corydoras blochi vittatus* Nijssen, 1971

type locality tributary of Rio Itapicuru at Caxias

records

- | | |
|-----------|---------------------------------------|
| Itapecuru | ○ Nijssen (1971): type locality |
| | ○ Abreu et al. (2019): listing |
| Mearim | ○ Guimarães et al. (2020b): specimens |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |
| | ○ Guimarães et al. (2021b): listing |
| MA state | ○ Reis (2003): listing |
| | ○ Brito (2007): listing |

family

Loricariidae

Roxo et al. (2019)

subfamily

Loricariinae

Londoño-Burbano & Reis (2021)

tribus

Loricariini

Hemiodontichthys Bleeker, 1862**H. acipenserinus** (Kner, 1853)*Hemiodon acipenserinus* Kner, 1853

records

- | | |
|-----------|---|
| Itapecuru | ○ Barros et al. (2011): listing sub <i>H. cf. acipenserinus</i> |
| | ○ Abreu et al. (2019): listing |
| Mearim | ○ Guimarães et al. (2020b): specimens |

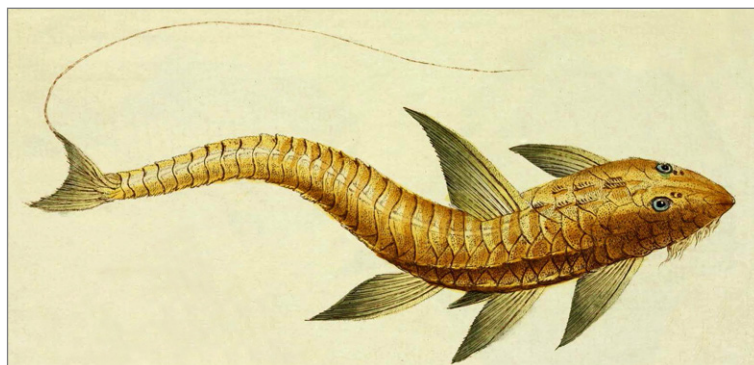
- Guimarães et al. (2020d): listing
- Guimarães et al. (2021a): specimens
- Londoño-Burbano & Reis (2021): specimens
- Guimarães et al. (2021b): listing
- Munim ○ Abreu et al. (2019): listing
- Turiaçu ○ Abreu et al. (2019): listing

Loricaria Linnaeus, 1758**L. cataphracta** Linnaeus, 1758*Loricaria cataphracta* Linnaeus, 1758> *Loricaria cirrhosa* Bloch & Schneider, 1801*Loricaria setifera* Lacepède, 1803*Loricaria dentata* Shaw, 1804*Plecostomus flagellaris* Gronow, 1854*Loricaria carinata* Castelnau, 1855*Loricaria dura* Bleeker, 1862

records

- Itapecuru ○ Piorski et al. (1998): listing
- Abreu et al. (2019): listing
- Saraiva et al. (2021): specimens sub *L. cf. cataphracta*
- Mearim ○ Abreu et al. (2019): listing
- Guimarães et al. (2020b): specimens sub *L. aff. cataphracta*
- Guimarães et al. (2020d): listing sub *L. cf. cataphracta*
- Guimarães et al. (2021a): specimens sub *L. cf. cataphracta*
- Saraiva et al. (2021): specimens sub *L. cf. cataphracta*
- Periá ○ Abreu et al. (2019): listing
- remarks This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

Loricaria cirrhosa Bloch & Schneider, 1801,
jr. synonym of
Loricaria cataphracta Linnaeus, 1758
Bloch & Schneider, pl. 34

**L. parnahybae** Steindachner, 1907*Loricaria parnahybae* Steindachner, 1907

type locality tributary of Rio Parnaíba near Alto Parnaíba (formerly Victoria)

records

- Itapecuru ○ Abreu et al. (2019): listing
- Parnaíba ○ Steindachner (1907): type locality
- Ramos (2012): locality
- Zanata et al. (2018): listing
- Saraiva et al. (2021): specimens
- Aguiar et al. (2021): review of type locality
- Periá ○ Brito et al. (2020): specimens sub *L. cf. parnahybae*
- MA state ○ Ghazzi & Oyakawa (2007): listing

L. turi Saraiva, Abreu, Ottoni & Piorski, 2021*Loricaria turi* Saraiva, Abreu, Ottoni & Piorski, 2021

type locality Lago do Rapa Cuia, Turiaçu River basin

records

- Turiaçu ○ Abreu et al. (2019): listing sub *L. cataphracta*
- Saraiva et al. (2021): type locality

Loricariichthys Bleeker, 1862**L. derbyi** Fowler, 1915*Loricariichthys derbyi* Fowler, 1915

records

- | | |
|------------|---|
| Itapecuru | ○ Barros et al. (2011): listing sub <i>L. acutus</i> [fide Paixão 2012] |
| | ○ Paixão (2012): specimens |
| Maracaçumé | ○ Paixão (2012): specimens |
| Mearim | ○ Paixão (2012): specimens |
| Parnaíba | ○ Paixão (2012): specimens |
| | ○ Ramos (2012): locality |

tribus

Farlowellini

Farlowella Eigenmann & Eigenmann, 1889**F. amazonum** (Günther, 1864)*Acestra amazonum* Günther, 1864*Farlowella carinata* Garman, 1889*Farlowella pseudogladolus* Steindachner, 1910*Farlowella oliveirae* Miranda Ribeiro, 1939*Farlowella pleurotaenia* Miranda Ribeiro, 1939*Farlowella paranaense* Meinken, 1937*Farlowella platorynchus* Retzer & Page, 1997

records

- | | |
|-----------|---|
| Mearim | ○ Guimarães et al. (2020b): specimens sub <i>F. cf. amazonum</i> |
| | ○ Guimarães et al. (2020d): listing sub <i>F. aff. amazonum</i> |
| | ○ Guimarães et al. (2021a): specimens sub <i>F. aff. amazonum</i> |
| | ○ Guimarães et al. (2021b): listing sub <i>F. cf. amazonum</i> |
| Tocantins | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |

Sturisoma Swainson, 1838**S. lyra** (Regan, 1904)*Oxyloricaria lyra* Regan, 1904

records

- | | |
|--------|---|
| Mearim | ○ Guimarães et al. (2020b): specimens sub <i>S. aff. lyra</i> |
| | ○ Guimarães et al. (2020d): listing sub <i>S. aff. lyra</i> |
| | ○ Guimarães et al. (2021a): specimens sub <i>S. aff. lyra</i> |

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

Loricariinae - unconfirmed species for Maranhão state requiring a verification based on voucher material*Loricaria acuta* Valenciennes, 1840 | sub *Loricariichthys acutus* in Abreu et al. (2019) for Itapecuru and Mearim basins*Loricaria griseus* Eigenmann, 1909 | sub *Limatulichthys griseus* in Abreu et al. (2019) for Itapecuru basin*Loricaria lanceolata* Günther, 1868 | sub *Rineloricaria lanceolata* in Abreu et al. (2019) for Mearim basin*Loricaria nudirostris* Kner, 1853 | sub *Loricariichthys n.* in Piorski et al. (1998) for Itapecuru, and Abreu et al. (2019) for Itapecuru, Mearim and Turiaçu basins*Loricaria steindachneri* Regan, 1904 | sub *Rineloricaria steindachneri* in Ribeiro et al. (2014) for Munim basin

subfamily

Hypoptopomatinae

tribus

Hypoptopomatini

Hypoptopoma Günther, 1868**H. incognitum** Aquino & Schaefer, 2010*Hypoptopoma incognitum* Aquino & Schaefer, 2010

records

- | | |
|--------|---------------------------------------|
| Mearim | ○ Aquino & Schaefer (2010): specimens |
| | ○ Abreu et al. (2019): listing |
| | ○ Guimarães et al. (2020b): specimens |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |

tribus *Otocinclus* clade

Otocinclus Cope, 1871

O. hasemani Steindachner, 1915

Otocinclus hasemani Steindachner, 1915

type locality Engenhão de Água, rio Parnaíba basin

records

- Parnaíba
MA state
- Steindachner (1915): type locality
 - Schaefer (2003): listing
 - Reis & Carvalho (2007): listing

tribus *Corumbataia* clade

Curculionichthys Roxo, Silva, Ochoa & Oliveira, 2015

C. tukana Roxo, Dias, Silva & Oliveira, 2017

Curculionichthys tukana Roxo, Dias, Silva & Oliveira, 2017

type locality Estreito, Ribeirão Bofe, Tocantins basin

records

- Tocantins
- Roxo et al. (2017): type locality

tribus Hisonotini

Parotocinclus Eigenmann & Eigenmann, 1889

P. cabessadecua Ramos, Lima & Ramos, 2017

Parotocinclus cabessadecua Ramos, Lima & Ramos, 2017

records

- Parnaíba
- Ramos et al. (2017): paratype locality

Hypoptopomatinae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Parotocinclus haroldoi Garavello, 1988 | in Ramos (2012) for Parnaíba basin

subfamily Hypostominae

tribus Hypostomini

Hypostomus Lacepède, 1803

H. faveolus Zawadzki, Birindelli & Lima, 2008

Hypostomus faveolus Zawadzki, Birindelli & Lima 2008

records

- Tocantins
- Stawikowski et al. (2004): listing sub *Hypostomus* sp. L37
 - Zawadzki et al. (2008): paratype locality

H. johnii (Steindachner, 1877)

Plecostomus johnii Steindachner, 1877

Chaetostomus eptingi Fowler, 1941

records

- Parnaíba
- Ramos et al. (2017): specimens
 - Zanata et al. (2018): listing
- Periá
- Abreu et al. (2019): listing
 - Brito et al. (2020): specimens

Pterygoplichthys Gill, 1858

P. parnaíbae (Weber, 1991)

Glyptoperichthys parnaíbae Weber, 1991

type locality Lago Parnaguá, Rio Paraim, Parnaíba basin

records

- Mearim
- Guimarães et al. (2020b): specimens
 - Guimarães et al. (2021b): listing
- Parnaíba
MA state
- Weber (1991): type locality
 - Weber (2003): listing sub *Glyptoperichthys p.*

- o Carvalho & Bockmann (2007): listing

tribus *Peckoltia* clade

Ancistomus Isbrücker & Seidel, 2001

A. spilomma (Cardoso & Lucinda, 2003)

Hemiancistrus spilomma Cardoso & Lucinda, 2003

records

- Tocantins o Cardoso & Lucinda (2003): paratype locality

Aphanotorulus Isbrücker & Nijssen, 1983

A. emarginatus (Valenciennes, 1840)

Hypostomus emarginatus Valenciennes, 1840

Hypostoma squalinum Jardine, 1841

Plecostomus annae Steindachner, 1881

records

- Tocantins o Garavello et al. (2010): locality sub *Hypostomus e.*

collections

- Tocantins o MNRJ 39650, 48056, 48060, 49051, 49872

remarks

This species needs verification as no direct match between literature and collection lots is available. Guimarães et al. (2020c) list specimens from the Tocantins basin in Pará, very close to the border with Maranhão.

tribus *Hemiancistrus* clade

Baryancistrus Rapp Py-Daniel, 1989

B. niveatus (Castelnau, 1855)

> *Hypostomus niveatus* Castelnau, 1855

records

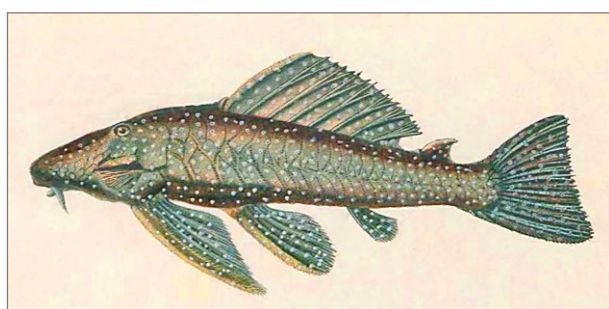
- Tocantins o Garavello et al. (2010): locality

collections

- Tocantins o MCP 52876, 53061, 53077, 53081, 53109
- o MNRJ 49870, 49871
- o MPEG 36358-36360

remarks

This species needs verification as no direct match between literature and collection lots is available.



Baryancistrus niveatus (Castelnau, 1855) | Cast., pl. 21, fig. 3



Acanthicus hystrix Spix & Agassiz, 1829 | Spix & Agassiz, pl. 1

tribus *Panaque* clade

Panaque Eigenmann & Eigenmann, 1889

P. nigrolineatus (Peters, 1877)

Chaetostomus nigrolineatus Peters, 1877

records

- Tocantins o Garavello et al. (2010): locality

collections

- Tocantins o MCP 52856, 52874, 52875, 53028, 53031, 53032

remarks

This species needs verification as no direct match between literature and collection lots is available.

literature and collection lots is available.
Lujan et al. (2010) stated that “reports of this species from southeastern tributaries of the Amazon basin are probably misidentifications”.

tribus *Acanthicus* clade

Acanthicus Agassiz, 1829

A. hystrix Spix & Agassiz, 1829

> *Acanthicus hystrix* Spix & Agassiz, 1829

Rinelepis acanthicus Valenciennes, 1840

records

Tocantins ○ Chamon (2016): specimens

Leporacanthicus Isbrücker & Nijssen, 1989

L. galaxias Isbrücker & Nijssen, 1989

Leporacanthicus galaxias Isbrücker & Nijssen, 1989

Mearim ○ Abreu et al. (2019): listing

Tocantins ○ Guimarães et al. (2020d): listing

○ Guimarães et al. (2021a): specimens

tribus Ancistrini

Ancistrus Kner, 1854

A. damasceni (Steindachner, 1907)

Xenocara damasceni Steindachner, 1907

type locality tributary of Rio Parnaíba near Alto Parnaíba
(formerly Victoria)

records

Parnaíba ○ Steindachner (1907): type locality

Hypostominae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Ancistrus dolichopterus Kner, 1854 | in Abreu et al. (2019) for Itapecuru basin

Ancistrus lituratus Kner, 1854 | sub *Pterygoplichthys lituratus* in Abreu et al. (2019) for Mearim basin

Loricaria punctata Kner, 1854 | sub *Pterygoplichthys* cf. *punctatus* in Barros et al. (2011) for Itapecuru basin; and sub

Pterygoplichthys punctatus in Abreu et al. (2019) for Itapecuru and Mearim basins

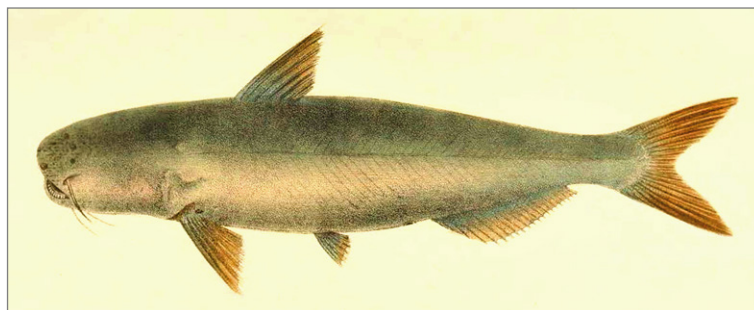
Peckoltia greedoi Armbruster, Werneke & Tan, 2015 | in Armbruster et al. (2015)

Xenocara multispinis Regan, 1912 | sub *Ancistrus multispinis* in Abreu et al. (2019) for Itapecuru basin

Hypostominae - species considered not to be distributed in Maranhão

Acipenser plecostomus Linnaeus, 1758 | sub *Hypostomus plecostomus* in Abreu et al. (2019) for Itapecuru, Munim,

Mearim and Turiaçu basins; sub *Hypostomus* aff. *plecostomus* in Guimarães et al. (2020d, 2021) for Gurupi, Mearim and Tocantins basins | Weber et al. (2012)



Cetopsis coecutiens (Lichtenstein, 1819)
Spix & Agassiz, pl. 10, fig. 2

family

Cetopsidae

subfamily

Cetopsinae

Cetopsis Agassiz, 1829

C. coecutiens (Lichtenstein, 1819)

- > *Silurus coecutiens* Lichtenstein, 1819
- Silurus caecutiens* Günther, 1864
- records
 - Tocantins ○ Garavello et al. (2010): locality
- collections
 - Tocantins ○ DZSJRP 20772, 20776, 20818, 20871
 - MNRJ 48730
- remarks This species needs verification as no direct match between literature and collection lots is available.

subfamily Helogeninae

Helogenes Günther, 1863

H. marmoratus Günther, 1863

- Helogenes marmoratus* Günther, 1863
- Helogenes amazonae* Delsman, 1941
- Helogenes unidorsalis* Glodek & Carter, 1978
- records
 - Tocantins ○ Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

family **Aspredinidae**

Carvalho et al. (2018)

subfamily Pseudobunocephalinae

Pseudobunocephalus Friel, 2008

P. timbira Leão, Carvalho, Reis & Wosiacki, 2019

- Pseudobunocephalus timbira* Leão et al., 2019
- type locality Alto Alegre do Pindaré, Jundiá Creek, Mearim basin
- records
 - Mearim ○ Leão et al. (2019): type locality
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Tocantins ○ Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

subfamily Aspredininae

tribus Aspredinini

Aspredo Scopoli, 1777

A. aspredo (Linnaeus, 1758)

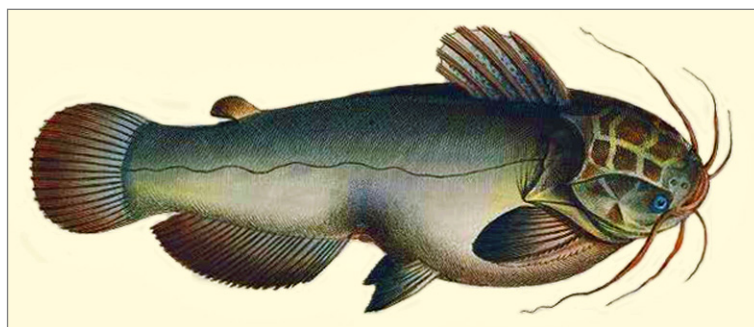
- Silurus aspredo* Linnaeus, 1758
- Platystacus laevis* Bloch, 1794
- Aspredo sicuephorus* Valenciennes, 1840
- Aspredo batrachus* Gronow, 1854
- Aspredo batrachus* Bleeker, 1864
- Aspredo sicyeporus* Günther, 1864
- records
 - Itapecuru ○ Barros et al. (2011): listing
 - Abreu et al. (2019): listing
 - Mearim ○ Soares (2013): listing
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

Aspredinidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Aspredo tibicen Valenciennes, 1840 | sub *Aspredinichthys tibicen* in Abreu et al. (2019) for Itapecuru basin

- family **Auchenipteridae** Calegari et al. (2019)
- subfamily **Centromochlinae**
- tribus **Gelanoglanini**
- Gelanoglanis** Böhlke, 1980
- G. varii** Calegari & Reis, 2016
Gelanoglanis varii Calegari & Reis, 2016
 type locality border between Maranhão and Tocantins states,
 Tocantins River upstream the Estreito hydroelectric
 power plant
- records
 Tocantins
 - Calegari & Reis (2016): type locality
 - Calegari et al. (2019): specimens
- tribus **Glanidiini**
- Tatia** Miranda Ribeiro, 1911
- T. intermedia** (Steindachner, 1877)
Centromochlus intermedius Steindachner, 1877
Centromochlus dunnii Fowler, 1945
- records
 Itapecuru
 - Abreu et al. (2019): listing
 Mearim
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Guimarães et al. (2021b): listing
- subfamily **Auchenipterinae**
- tribus **Trachelyopterini**
- Trachelyopterus** Valenciennes, 1840
- T. galeatus** (Linnaeus, 1766)
 > *Silurus galeatus* Linnaeus, 1766
Auchenipterus maculosus Valenciennes, 1840
Parauchenipterus paseae Regan, 1906
- records
 Gurupi
 - Abreu et al. (2019): listing
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): listing
 Itapecuru
 - Piorski et al. (1998): listing sub *Parauchenipterus g.*
 - Barros et al. (2011): listing sub *Parauchenipterus g.*
 - Lima (2017): listing
 - Abreu et al. (2019): listing
 Mearim
 - Soares (2013): listing
 - Abreu et al. (2019): listing
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Guimarães et al. (2021b): listing
 Munim
 - Lima (2017): listing
 - Abreu et al. (2019): listing
 Parnaíba
 - Melo et al. (2017): specimens
 Peria
 - Abreu et al. (2019): listing
 - Brito et al. (2019): specimens
 - Brito et al. (2020): specimens
 Preguiças
 - Lima (2017): listing
 - Abreu et al. (2019): listing
 - Brito et al. (2020): specimens
 Tocantins
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 Turiaçu
 - Abreu et al. (2019): listing
 Litoral Ocid.
 - Abreu et al. (2019): listing

Trachelyopterus galeatus (Linnaeus, 1766)
Bloch, pl. 369, fig. 1



tribus

Auchenipterini

Auchenipterichthys Bleeker, 1862

A. coracoideus (Eigenmann & Allen, 1942)

Trachycorystes coracoideus Eigenmann & Allen, 1942

records

Tocantins

- o Guimarães et al. (2020d): listing sub *A. cf. coracoideus*
- o Guimarães et al. (2021a): specimens sub *A. cf. coracoideus*

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

Auchenipterus Valenciennes, 1840

A. menezesi Ferraris & Vari, 1999

Auchenipterus menezesi Ferraris & Vari, 1999

type locality Lago de Viana, Rio Pindaré-Mirim basin

records

Itapecuru

- o Barros et al. (2011): listing
- o Abreu et al. (2019): listing

Mearim

- o Ferraris & Vari (1999): type locality
- o Abreu et al. (2019): listing
- o Guimarães et al. (2020b): specimens
- o Guimarães et al. (2020d): listing
- o Guimarães et al. (2021a): specimens

Parnaíba
MA state

- o Ramos (2012): locality
- o Ferraris (2003): listing
- o Akama & Sarmento-Soares (2007): listing

A. nuchalis (Spix & Agassiz, 1829)

> *Hypophthalmus nuchalis* Spix & Agassiz, 1829

records

Mearim

- o Soares (2013): listing
- o Abreu et al. (2019): listing

Tocantins

- o Garavello et al. (2010): locality

Turiaçu

- o Abreu et al. (2019): listing

collections

Tocantins

- o MCP 53059, 53086
- o MNRJ 48054, 48729
- o MZUSP 87256

Turiaçu

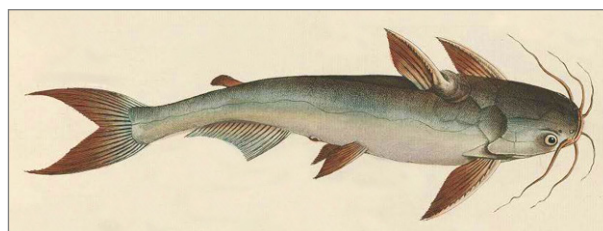
- o UNT 11185
- o MPEG 3005

remarks

This species needs verification as no direct match between literature and collection lots is available.



Hypophthalmus nuchalis Spix & Agassiz, 1829
Spix & Agassiz, pl. 17



Pseudoauchenipterus nodosus (Bloch, 1794)
Bloch, pl. 368, fig. 1

Pseudauchenipterus Bleeker, 1862***P. nodosus*** (Bloch, 1794)

- > *Silurus nodosus* Bloch, 1794
- Auchenipterus furcatus* Valenciennes, 1840
- Pseudauchenipterus guppyi* Regan, 1906
- Pseudauchenipterus nigrolineatus* Fowler, 1911
- Silvaichthys aguilerae* Fernández-Yépez, 1973

records

- | | |
|---------------|--|
| Itapecuru | o Piorski et al. (1998): listing |
| | o Barros et al. (2011): listing |
| | o Abreu et al. (2019): listing |
| Mearim | o Soares (2013): listing |
| | o Abreu et al. (2019): listing |
| | o Guimarães et al. (2020d): listing |
| | o Guimarães et al. (2021a): specimens |
| Turiaçu | o Abreu et al. (2019): listing |
| Litoral Ocid. | o Sarmiento-Soares (2020): specimens |
| MA state | o Akama & Sarmiento-Soares (2007): listing |

tribus

Ageneiosini

Ageneiosus Lacepède, 1803***A. inermis*** (Linnaeus, 1766)

- > *Silurus inermis* Linnaeus, 1766
- Ageneiosus armatus* Lacepède, 1803
- Ageneiosus brevifilis* Valenciennes, 1840
- Hypothalmus dawalla* Jardine, 1841
- Davalla schomburgkii* Bleeker, 1858
- Ageneiosus axillaris* Günther, 1864
- Ageneiosus sebae* Günther, 1864
- Ageneiosus therezinae* Steindachner, 1909
- Ageneiosus marmoratus* Eigenmann, 1912
- Ageneiosus ogilviei* Fowler, 1914
- Ageneiosus barranquerensis* Risso & Risso, 1964
- Ageneiosus gabardinii* Risso & Risso, 1964

records

- | | |
|-----------|---------------------------------------|
| Itapecuru | o Barros et al. (2011): listing |
| Mearim | o Soares (2013): listing |
| Tocantins | o Guimarães et al. (2020d): listing |
| | o Guimarães et al. (2021a): specimens |
| Turiaçu | o Ribeiro et al. (2017): specimens |

A. ucayalensis Castelnau, 1855

- > *Ageneiosus ucayalensis* Castelnau, 1855
- Ageneiosus dentatus* Kner, 1858
- Ageneiosus porphyreus* Cope, 1867
- Ageneiosus parnaguensis* Steindachner, 1910
- Ageneiosus guianensis* Eigenmann, 1912

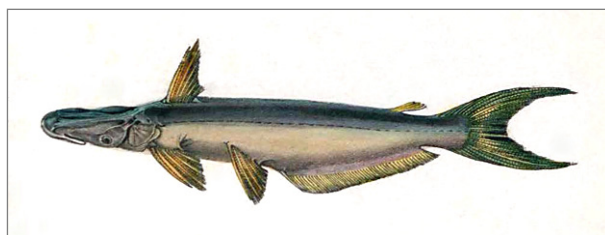
records

- | | |
|-----------|---|
| Itapecuru | o Piorski et al. (1998): listing |
| | o Barros et al. (2011): listing |
| | o Abreu et al. (2019): listing |
| Mearim | o Soares (2013): listing sub <i>Ageneiosus dentatus</i> |
| | o Abreu et al. (2019): listing |
| | o Guimarães et al. (2020b): specimens |
| | o Guimarães et al. (2020d): listing |
| | o Guimarães et al. (2021a): specimens |
| Tocantins | o Guimarães et al. (2020d): listing |
| | o Guimarães et al. (2021a): specimens |

Auchenipterinae - species considered not to be distributed in Maranhão*Ageneiosus vittatus* Steindachner, 1908 | in Abreu et al. (2019) for Itapecuru and Mearim basins | Ribeiro et al. (2017)



Ageneiosus inermis (Linnaeus, 1766) | Bloch, pl. 363



A. ucayalensis Castelnau, 1855 | Castelnau, pl. 17, fig. 2

family **Doradidae** Sabaj & Arce (2021)

subfamily Doradinae

Hassar Eigenmann & Eigenmann, 1888

H. affinis (Steindachner, 1881)

Oxydoras affinis Steindachner, 1881

Hassar woodi Fowler, 1941

records

- Itapecuru
 - Steindachner (1917): locality sub *Hemidoras a.*
 - Barros et al. (2011): listing
 - Birindelli et al. (2011): specimens
 - Abreu et al. (2019): listing
- Mearim
 - Freire et al. (2019): listing
 - Birindelli et al. (2011): specimens
 - Abreu et al. (2019): listing
 - Freire et al. (2019): listing
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
- Munim
 - Ribeiro et al. (2014): locality
 - Abreu et al. (2019): listing
 - Nunes et al. (2019): listing
- Parnaíba
- Turiaçu
 - Ramos (2012): locality
 - Birindelli et al. (2011): specimens
 - Abreu et al. (2019): listing
 - Freire et al. (2019): listing

Platydoras Bleeker, 1862

P. brachylecis Piorski, Garavello, Arce H. & Sabaj Pérez, 2008

Platydoras brachylecis Piorski et al., 2008

type locality Igarapé Mineirão, Alto Alegre do Pindaré, Rio Mearim basin

records

- Itapecuru
 - Piorski et al. (2008): paratype locality
 - Barros et al. (2011): listing
 - Lima (2017): listing
 - Abreu et al. (2019): listing
- Mearim
 - Piorski et al. (2008): type locality
 - Soares (2013): listing sub *P. costatus*
 - Abreu et al. (2019): listing
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Guimarães et al. (2021b): listing
- Munim
 - Abreu et al. (2019): listing
 - Nunes et al. (2019): listing
- Parnaíba
- Turiaçu
 - Ramos (2012): locality sub *P. costatus*
 - Abreu et al. (2019): listing

P. costatus (Linnaeus, 1758)

> *Silurus costatus* Linnaeus, 1758

Mystus ascita Gronow, 1854

Doras dentatus Kner, 1855

Doras helicophilus Günther, 1868

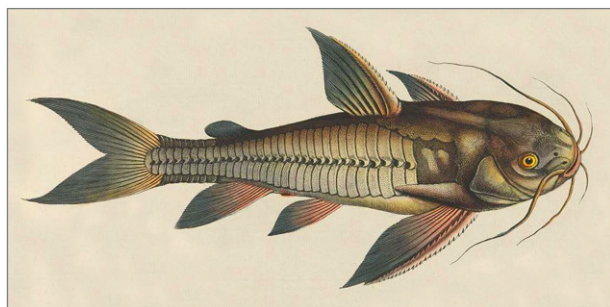
records

- Tocantins
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

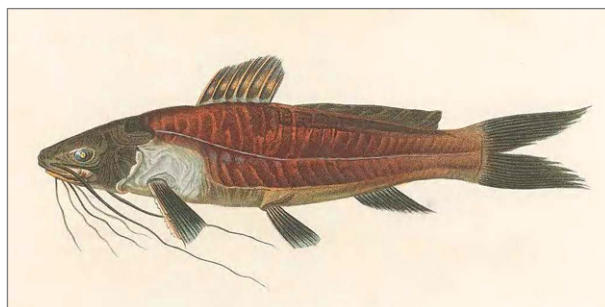
Doradidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Doras granulatus Valenciennes, 1821 | sub *Pterodoras granulatus* in Garavello et al. (2010) for Tocantins basin

Doras niger Valenciennes, 1821 | sub *Oxydoras niger* in Garavello et al. (2010) for Tocantins basin



Platydoras costatus (Linnaeus, 1758)
Bloch, pl. 376



Rhamdia quelen (Quoy & Gaimard, 1824)
Quoy & Gaimard, pl. 49, fig. 3

family **Heptapteridae**

Silva et al. (2021)

subfamily Rhamdiinae

Pimelodella Eigenmann & Eigenmann, 1888

P. cristata (Müller and Troschel, 1849)

Pimelodus cristatus Müller & Troschel, 1848

records

- Itapecuru
 - o Piorski et al. (1998): listing
 - o Abreu et al. (2019): listing
- Mearim
 - o Soares (2013): listing
 - o Abreu et al. (2019): listing
- Munim
 - o Abreu et al. (2019): listing
- Preguiças
 - o Abreu et al. (2019): listing
- Tocantins
 - o Garavello et al. (2010): locality
- Turiaçu
 - o Abreu et al. (2019): listing

collections

- Mearim
 - o MZUEL 15368-15370, 17462, 17463
- Tocantins
 - o MNRJ 39712, 39779, 48732
 - o UNT 5755, 5774, 11182
- Turiaçu
 - o MPEG 2678

remarks

This species needs verification as no direct match between literature and collection lots is available.

P. parnahybae Fowler, 1941

Pimelodella parnahybae Fowler, 1941

records

- Itapecuru
 - o Barros et al. (2011): listing
 - o Lima (2017): listing
 - o Abreu et al. (2019): listing
- Mearim
 - o Abreu et al. (2019): listing
 - o Guimarães et al. (2020b): specimens
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens
- Munim
 - o Lima (2017): listing
 - o Abreu et al. (2019): listing
 - o Oliveira et al. (2020): specimens
- Parnaíba
 - o Ramos (2012): locality
- Periá
 - o Abreu et al. (2019): listing
 - o Brito et al. (2019): specimens
 - o Brito et al. (2020): specimens
- Preguiças
 - o Lima (2017): listing

Rhamdia Bleeker 1858

R. quelen (Quoy & Gaimard, 1824)

> *Pimelodus quelen* Quoy & Gaimard, 1824

Pimelodus sapo Valenciennes, 1835

Pimelodus hilaarii Valenciennes, 1840

Rhamdia sebae martyi Güntert, 1942

to numerous to list all (> 50)

records

- | | |
|-----------|---------------------------------------|
| Gurupi | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): listing |
| Itapecuru | ○ Abreu et al. (2019): listing |
| Mearim | ○ Soares (2013): listing |
| | ○ Abreu et al. (2019): listing |
| | ○ Guimarães et al. (2020b): specimens |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |
| Parnaíba | ○ Ramos (2012): locality |
| Tocantins | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |

subfamily

Heptapterinae

tribus

Heptapterini

Mastiglanis Bockmann, 1994***M. asopos*** Bockmann, 1994*Mastiglanis asopos* Bockmann, 1994

records

- | | |
|-----------|---------------------------------------|
| Mearim | ○ Abreu et al. (2019): listing |
| | ○ Guimarães et al. (2020b): specimens |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |
| Tocantins | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |

Phenacorhamdia Dahl, 1961***P. cabocla*** Rocha, Ramos & Ramos, 2018*Phenacorhamdia cabocla* Rocha, Ramos & Ramos, 2018

records

- | | |
|----------|--|
| Parnaíba | ○ Rocha et al. (2008): paratype locality |
|----------|--|

Heptapteridae - unconfirmed species for Maranhão state requiring a verification based on voucher material*Nannorhamdia stictonotus* Fowler, 1940 | sub *Imparfinis stictonotus* in Abreu et al. (2019) for Mearim basin*Pimelodella steindachneri* Eigenmann, 1917 | sub *Pimelodella* cf. *steindachneri* in Ramos (2012) for Parnaíba basin

family

Pimelodidae***Cheirocerus*** Eigenmann, 1917***C. goeldii*** (Steindachner, 1908)*Pimelodina goeldii* Steindachner, 1908*Pimelodus leptus* Eigenmann & Pearson, 1942

records

- | | |
|--------|---------------------------------------|
| Mearim | ○ Guimarães et al. (2020b): specimens |
| | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |

Hemisorubim Bleeker, 1862***H. platyrhynchos*** (Valenciennes, 1840)*Platystoma platyrhynchos* Valenciennes, 1840? *Pimelodus coruscans* Lichtenstein, 1819*Silurus gerupoca* Natterer, 1858

records

- | | |
|-----------|---------------------------------------|
| Itapecuru | ○ Barros et al. (2011): listing |
| | ○ Abreu et al. (2019): listing |
| Mearim | ○ Soares (2013): listing |
| | ○ Abreu et al. (2019): listing |
| | ○ Guimarães et al. (2020b): specimens |
| | ○ Guimarães et al. (2020d): listing |

- Munim ○ Guimarães et al. (2021a): specimens
- Parnaíba ○ Abreu et al. (2019): listing
- Tocantins ○ Ramos (2012): locality
- Garavello et al. (2010): locality

Hypophthalmus Cuvier, 1829

H. edentatus Spix & Agassiz, 1829

> *Hypophthalmus edentatus* Spix & Agassiz, 1829

Hypophthalmus spixii Valenciennes, 1840

Hypophthalmus perporosus Cope, 1878

records

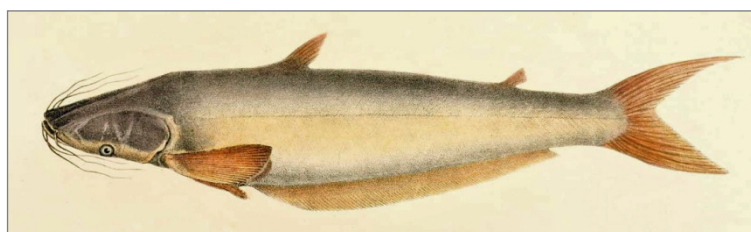
- Tocantins ○ Garavello et al. (2010): locality sub *H. marginatus*
- Littmann et al. (2021): assigned Garavello's record of *H. marginatus* to *H. edentatus*

collections

- Tocantins ○ MZUSP 87267 *Hypophthalmus marginatus*

remarks

This species needs verification as no direct match between literature and collection lots is available.



Hypophthalmus edentatus Spix & Agassiz, 1829
Spix & Agassiz, pl. 9

Pimelodus Lacepède, 1803

P. albofasciatus Mees, 1974

Pimelodus albofasciatus Mees, 1974

records

- Itapecuru ○ Piorski et al. (1998): listing
- Abreu et al. (2019): listing
- Turiaçu ○ Abreu et al. (2019): listing

collections

- Turiaçu ○ MPEG 2991

remarks

This species needs verification as no direct match between literature and collection lots is available.

P. blochii Valenciennes, 1840

Pimelodus blochii Valenciennes, 1840

Pseudorhamdia macronema Bleeker, 1864

Pseudorhamdia piscatrix Cope, 1870

records

- Gurupi ○ Guimarães et al. (2020d): listing
- Guimarães et al. (2021a): listing
- Itapecuru ○ Piorski et al. (1998): listing
- Barros et al. (2011): listing
- Abreu et al. (2019): listing
- Mearim ○ Soares (2013): listing
- Abreu et al. (2019): listing
- Guimarães et al. (2020b): specimens
- Guimarães et al. (2020d): listing
- Guimarães et al. (2021a): specimens
- Guimarães et al. (2021b): listing
- Parnaíba ○ Ramos (2012): locality
- Tocantins ○ Garavello et al. (2010): locality
- Turiaçu ○ Abreu et al. (2019): listing

P. ornatus Kner, 1858

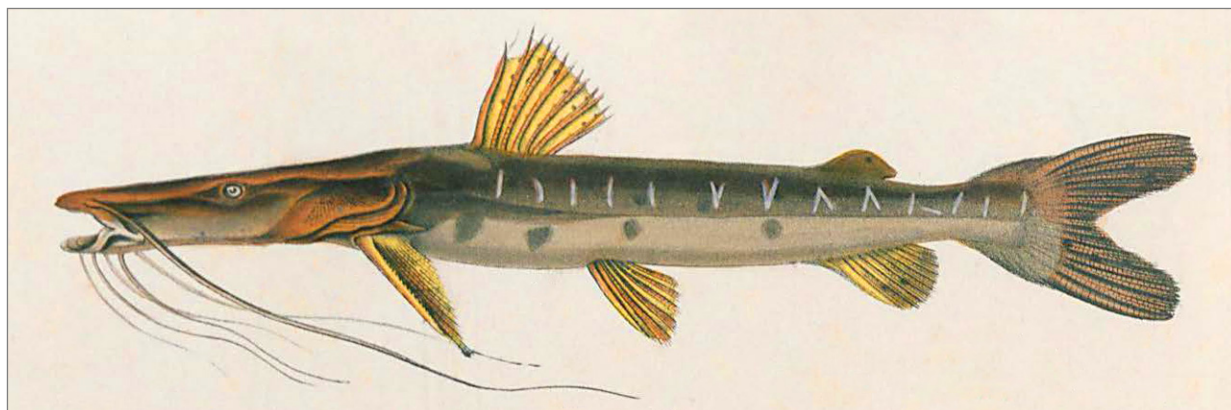
Pimelodus ornatus Kner, 1858

Megalonema rhabdostigma Fowler, 1914

records

- Itapecuru ○ Piorski et al. (1998): listing
- Barros et al. (2011): listing

- Mearim
 - Abreu et al. (2019): listing
 - Soares (2013): listing
 - Abreu et al. (2019): listing
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2021b): listing
- Munim
 - Abreu et al. (2019): listing
- Parnaíba
 - Ramos (2012): locality



Pseudoplatystoma punctifer (Castelnau, 1855) | Castelnau, pl. 19, fig. 2

Pseudoplatystoma Bleeker 1862

P. punctifer (Castelnau, 1855)

- > *Platystoma punctifer* Castelnau, 1855
- Pseudoplatystoma fasciatum* var. *intermedium* Eigenmann & Eigenmann, 1888
- Pseudoplatystoma fasciatum brevifile* Eigenmann & Eigenmann, 1889
- Pseudoplatystoma fasciatum* var. *nigricans* Eigenmann & Eigenmann, 1889

records

- Itapecuru
 - Piorski et al. (1998): listing sub *P. fasciatum*
 - Barros et al. (2011): listing
- Mearim
 - Abreu et al. (2019): listing sub *P. fasciatum*
 - Soares (2013): listing sub *P. fasciatum*
 - Abreu et al. (2019): listing sub *P. fasciatum*
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
- Munim
 - Ribeiro et al. (2014): locality sub *P. fasciatum*
 - Abreu et al. (2019): listing sub *P. fasciatum*
- Parnaíba
 - Ramos (2012): locality

Sorubim Cuvier, 1829

S. lima (Bloch & Schneider, 1801)

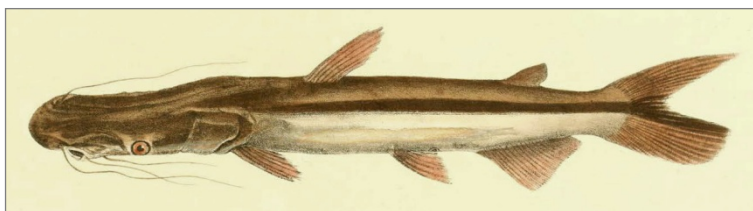
- Silurus lima* Bloch & Schneider, 1801
- > *Sorubim infraoculare* Spix, 1829
- Silurus gerupensis* Natterer, 1858
- Platystoma luceri* Weyenbergh, 1877
- Sorubim latirostris* Miranda Ribeiro, 1920

records

- Itapecuru
 - Piorski et al. (1998): listing
 - Barros et al. (2011): listing
 - Abreu et al. (2019): listing
- Mearim
 - Soares (2013): listing
 - Abreu et al. (2019): listing
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Guimarães et al. (2021b): listing
- Munim
 - Ribeiro et al. (2014): locality
 - Abreu et al. (2019): listing

- Parnaíba
Tocantins
- Ramos (2012): locality
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

Sorubim infraoculare Spix, 1829
jr. synonym of
Sorubim lima (Bloch & Schneider, 1801)
Spix & Agassiz, pl. 15



Pimelodidae - species considered not to be distributed in Maranhão

Pimelodus maculatus Lacépède, 1803 | in Ramos (2012) for Parnaíba basin | Lundberg & Littmann (2003), Shibatta & Bockmann (2007)

Silurus fasciatus Linnaeus, 1766 | sub *Pseudoplatystoma fasciatum* in Abreu et al. (2019) for Itapecuru, Mearim and Munim basins, and in Guimarães et al. (2021a) for Mearim and Tocantins basins | Buitrago-Suárez & Burr (2007)

family **Pseudopimelodidae**

subfamily **Batrochoglaninae**

Batrochoglanis Gill, 1858

B. villosus (Eigenmann, 1912)

Pseudopimelodus villosus Eigenmann, 1912

records

- Itapecuru
Mearim
- Piorski et al. (1998): listing sub *Pseudopimelodus* cf. *raninus*
 - Shibatta & Pavanelli (2005): specimens
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Guimarães et al. (2021b): listing

family **Ariidae**

subfamily **Ariinae**

Cathorops Jordan & Gilbert, 1883

C. spixii (Agassiz, 1829)

Pimelodus spixii Agassiz, 1829

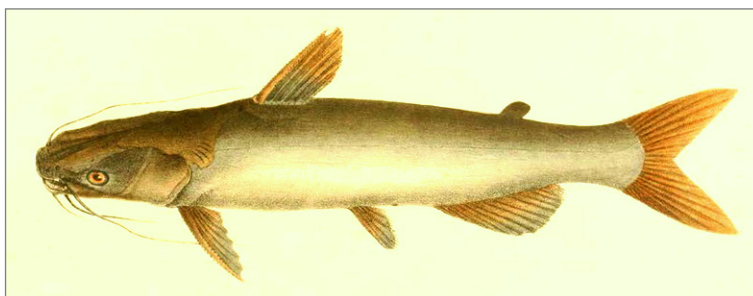
> *Pimelodus albidus* Spix & Agassiz, 1829

Arius nigricans Valenciennes, 1834

records

- Mearim
- Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

Pimelodus albidus Spix & Agassiz, 1829
jr. synonym of
Cathorops spixii (Agassiz, 1829)
Spix & Agassiz, pl. 7, fig. 1



Sciades Müller & Troschel, 1849

S. herzbergii (Bloch, 1794)

- > *Silurus herzbergii* Bloch, 1794
- Pimelodus argenteus* Lacepède, 1803
- Bagrus mesops* Valenciennes, 1840
- Bagrus pemecus* Valenciennes, 1840
- Bagrus coelestinus* Müller & Troschel, 1849
- Hexanematichthys hymenorrhinos* Bleeker, 1862
- Netuma dubia* Bleeker, 1862

records

- Mearim
- Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

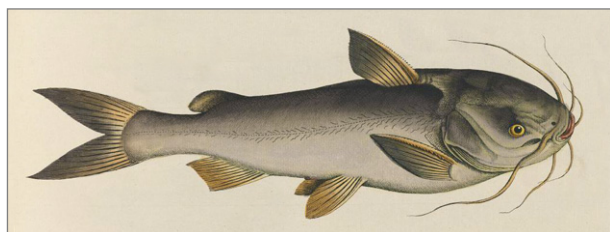
S. passany (Valenciennes, 1840)*Bagrus passany* Valenciennes, 1840

records

- Mearim
- Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

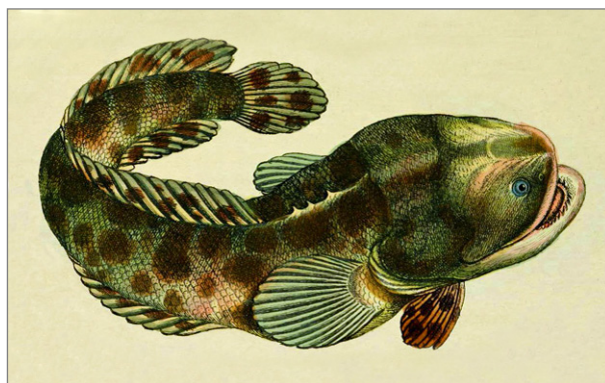
Ariidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Bagrus couma Valenciennes, 1840 | sub *Sciades couma* in Abreu et al. (2019) and sub *Hexanematichthys couma* in Barros et al. (2011) for Itapecuru basin and in Soares (2013) for Mearim basin



Sciades herzbergii (Bloch, 1794)
Bloch, pl. 367

Batrachoides surinamensis (Bloch & Schneider, 1801)
Bloch & Schneider, pl. 7



order **BATRACHOIDIFORMES**
family **Batrachoididae**
subfamily Batrachoidinae

Batrachoides Lacepède, 1800**B. surinamensis** (Bloch & Schneider, 1801)

- > *Batrachus surinamensis* Bloch & Schneider, 1801

records

- Mearim
- Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

order **SYNGNATHIFORMES**
family **Syngnathidae**
subfamily Nerophinae

Microphis Kaup 1853**M. lineatus** (Kaup 1856)*Doryichthys lineatus* Kaup, 1856

Eleotris Bloch & Schneider, 1801

E. pisonis (Gmelin, 1789)

Gobius pisonis Gmelin, 1789
Gobius amorea Walbaum, 1792
Gobiomoroides piso Lacepède, 1800
Eleotris gyrinus Valenciennes, 1837
Eleotris carvalhonis Starks, 1913

records

- | | |
|-----------|-------------------------------------|
| Mearim | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): listing |
| Parnaíba | ○ Vieira et al. (2020): specimens |
| Preguiças | ○ Lima (2017): listing |

family

Gobiidae

subfamily

Gobionellinae

Awaous Valenciennes, 1837

A. tajasica (Lichtenstein, 1822)

Gobius tajasica Lichtenstein, 1822
Euctenogobius latus O'Shaughnessy, 1875
Suiboga travassosi Pinto, 1960

records

- | | |
|-----------|----------------------------------|
| Parnaíba | ○ Melo et al. (2017): specimens |
| Preguiças | ○ Lima (2017): listing |
| | ○ Abreu et al. (2019): listing |
| | ○ Brito et al. (2020): specimens |

Ctenogobius Gill, 1858

C. boleosoma (Jordan & Gilbert, 1882)

Gobius boleosoma Jordan & Gilbert, 1882
Gobius encaeomus Jordan & Gilbert, 1883
Gobionellus munizi Vergara, 1978

records

- | | |
|--------------|--------------------------------------|
| Ilhas Maran. | ○ Guimarães et al. (2017): specimens |
|--------------|--------------------------------------|

C. shufeldti (Jordan & Eigenmann, 1887)

Gobius shufeldti Jordan & Eigenmann, 1887

records

- | | |
|--------|---------------------------------------|
| Mearim | ○ Guimarães et al. (2020d): listing |
| | ○ Guimarães et al. (2021a): specimens |

C. smaragdus (Valenciennes, 1837)

Gobius smaragdus Valenciennes, 1837
Smaragdus valenciennesi Poey, 1860

records

- | | |
|--------------|-----------------------------------|
| Ilhas Maran. | ○ Brito et al. (2019b): specimens |
|--------------|-----------------------------------|

order

SYNBRANCHIFORMES

family

Synbranchidae

Synbranchus Bloch, 1795

S. marmoratus Bloch, 1795

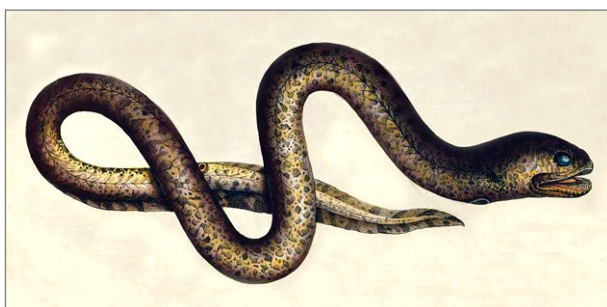
- ? *Muraena ambigua* Walbaum, 1792
> *Synbranchus marmoratus* Bloch, 1795
Synbranchus immaculatus Bloch, 1795
Typhlobranchus spurius Bloch & Schneider, 1801
Unibranchapertura lineata Lacépède, 1803

Synbranchus pardalis Valenciennes, 1836
Synbranchus fuliginosus Ranzani, 1839
Synbranchus vittatus Castelnau, 1855
Symbranchus doeringii Weyenbergh, 1877
Symbranchus hieronymi Weyenbergh, 1877
Symbranchus mercedarius Weyenbergh, 1877
Symbranchus tigrinus Weyenbergh, 1877
Falconeria aptera Larrañaga, 1923
Falconeria pinnata Larrañaga, 1923

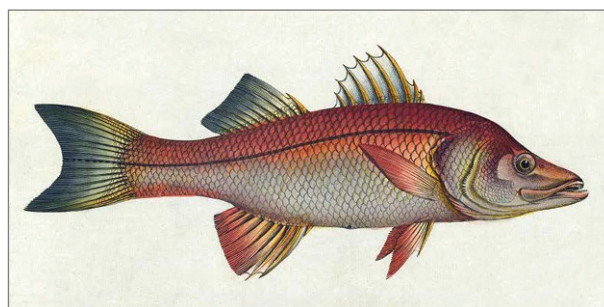
[info](#)

records

- Gurupi
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens
- Itapecuru
 - o Barros et al. (2011): listing
 - o Lima (2017): listing
 - o Abreu et al. (2019): listing
- Mearim
 - o Soares (2013): listing
 - o Abreu et al. (2019): listing
 - o Guimarães et al. (2020b): specimens
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens
- Munim
 - o Ribeiro et al. (2014): locality
 - o Matavelli et al. (2015): specimens
 - o Lima (2017): listing
 - o Guimarães et al. (2018): locality
 - o Abreu et al. (2019): listing
 - o Oliveira et al. (2020): specimens
- Parnaíba
Preguiças
 - o Ramos (2012): locality
 - o Lima (2017): listing
 - o Guimarães et al. (2018): locality
 - o Abreu et al. (2019): listing
 - o Brito et al. (2019): specimens
 - o Brito et al. (2020): specimens
- Tocantins
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens



Synbranchus marmoratus Bloch, 1795 | Bloch, pl. 418



Centropomus undecimalis (Bloch, 1792) | Bloch, pl. 303

order **CARANGIFORMES**

family **Centropomidae**

Centropomus Lacepède, 1802

C. parallelus Poey, 1860

Centropomus parallelus Poey, 1860

Centropomus heringi Fowler, 1906

records

- Itapecuru
 - o Barros et al. (2011): listing
 - o Abreu et al. (2019): listing
- Mearim
 - o Soares (2013): listing
 - o Abreu et al. (2019): listing
 - o Guimarães et al. (2020d): listing
 - o Guimarães et al. (2021a): specimens

C. undecimalis (Bloch, 1792)

- > *Sciaena undecimalis* Bloch, 1792
 - ?*Perca loubina* Lacepède, 1802
 - Centropomus undecimradiatus* Lacepède, 1802
 - ?*Sphyraena aureoviridis* Lacepède, 1803
 - Centropomus appendiculatus* Poey, 1860
 - Centropomus argenteus* Regan, 1904
- records
- Mearim
 - Soares (2013): listing
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Preguiças
 - Brito et al. (2020): specimens

family

Polynemidae**Polydactylus** Lacepède, 1803**P. virginicus** (Linnaeus, 1758)

- Polynemus virginicus* Linnaeus, 1758
 - Polynemus naso* Walbaum, 1793
 - Polynemus mango* Lacepède, 1803
 - Polydactylus plumierii* Lacepède, 1803
 - Polynemus americanus* Cuvier, 1829
 - Polynemus antillarum* Perugia, 1896
- records
- Preguiças
 - Brito et al. (2020): specimens

family

Paralichthyidae**Citharichthys** Bleeker, 1862**C. spilopterus** Günther, 1862

- Citharichthys spilopterus* Günther, 1862
 - Hemirhombus fuscus* Poey, 1868
- records
- Mearim
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

family

Achiridae**Achirus** Lacepède, 1802**A. achirus** (Linnaeus, 1758)

- Pleuronectes achirus* Linnaeus, 1758
 - > *Monochir punctifer* Castelnau, 1855
 - Achirus maculipinnis gunteri* Chabanaud, 1940
- records
- Mearim
 - Soares (2013): listing
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Periá
 - Abreu et al. (2019): listing
 - Brito et al. (2019): specimens
 - Brito et al. (2020): specimens
 - Preguiças
 - Abreu et al. (2019): listing
 - Brito et al. (2020): specimens
 - Tocantins
 - Garavello et al. (2010): locality
 - Ilhas Maran.
 - Ramos (2003): specimens

Apionichthys Kaup, 1858**A. dumerili** Kaup, 1858

- Apionichthys dumerili* Kaup, 1858
- Soleotalpa unicolor* Günther, 1862
- Apionichthys ottonis* Steindachner, 1868

Apionichthys nebulosus Peters, 1869

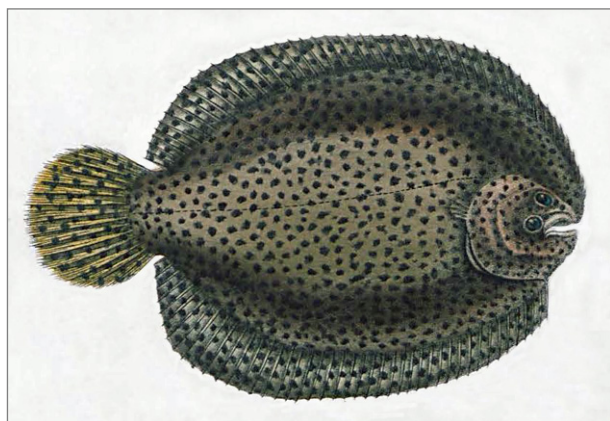
Apionichthys bleekeri Horst, 1878

records

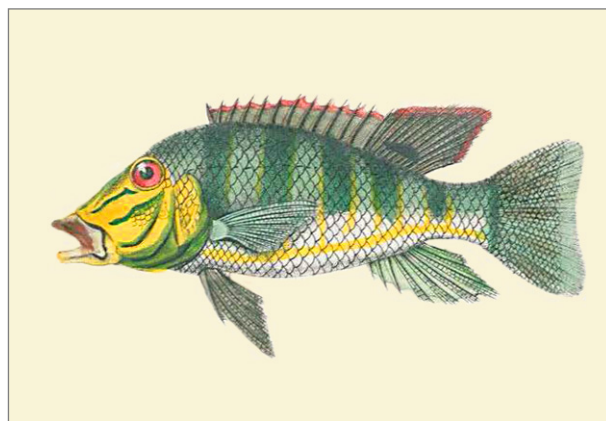
- Itapecuru
 - Barros et al. (2011): listing
 - Abreu et al. (2019): listing
- Ilhas Maran.
 - Ramos (1998): specimens
 - Ramos (2003): specimens

Achiridae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Pleuronectes lineatus Linnaeus, 1758 | sub *Achirus lineatus* in Abreu et al. (2019) for Itapecuru basin



Monochir punctifer Castelnau, 1855, jr. synonym of *Achirus achirus* (Linnaeus, 1758) | Castelnau, pl. 41, fig. 3



Retroculus lapidifer (Castelnau, 1855) Castelnau, pl. 12, fig. 1

order **CICHLIFORMES**
 family **Cichlidae**
 subfamily Pseudocrenilabrinae Dunz & Schliewen (2013)
 tribus Oreochromini

Oreochromis Günther, 1889

O. niloticus (Linnaeus, 1758)

Perca nilotica Linnaeus, 1758

records

- Itapecuru
 - Barros et al. (2011): listing
 - Abreu et al. (2019): listing
- Mearim
 - Guimarães et al. (2020b): specimens sub *O. sp.*
 - Guimarães et al. (2020d): listing sub *O. sp.*
 - Guimarães et al. (2021a): specimens sub *O. sp.*
- Periá
 - Abreu et al. (2019): listing
 - Brito et al. (2020): specimens sub *O. sp.*
- Preguiças
 - Brito et al. (2020): specimens sub *O. sp.*

remarks

introduced exotic species
 This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as 'aff.', 'cf.', or 'sp.').

subfamily Cichlinae Smith et al. (2008)
 tribus Retroculini

Retroculus Eigenmann & Bray, 1894

R. lapidifer (Castelnau, 1855)

> *Chromys lapidifera* Castelnau, 1855

Retroculus boulengeri Eigenmann & Bray, 1894

- records
Tocantins ○ Garavello et al. (2010): locality
- collections
Tocantins ○ CAS 14638, 67437
○ MNRJ 42985, 48955, 49981
○ MZUEL 4967
○ MZUSP 87278
○ NRM 13842
○ UNT 4974, 6017, 8080, 10581
- remarks This species needs verification as no direct match between literature and collection lots is available. Guimarães et al. (2021a) list specimens of *Retroculus* sp. from the Tocantins basin in Pará, very close to the border with Maranhão.

tribus Cichlini

Cichla Bloch & Schneider, 1801

C. kelberi Kullander & Ferreira, 2006

Cichla kelberi Kullander & Ferreira 2006

- records
Mearim ○ Almeida et al. (2021): molecular study
Preguiças ○ Brito et al. (2020): specimens
- remarks introduced species translocated from other areas of Brazil

C. pinima Kullander & Ferreira, 2006

Cichla pinima Kullander & Ferreira 2006

- records
Gurupi ○ Kullander & Ferreira (2006): specimens

tribus Geophagini

Apistogramma Regan, 1913

A. piauensis Kullander, 1980

Apistogramma piauensis Kullander, 1980

- records
Itapecuru ○ Linke & Staeck (1997): listing
○ Schindler (1998): listing
- Mearim ○ Guimarães et al. (2020b): specimens sub *A. cf. piauensis*
○ Guimarães et al. (2020d): listing sub *A. cf. piauensis*
○ Guimarães et al. (2021a): specimens sub *A. cf. piauensis*
○ Guimarães et al. (2021b): listing sub *A. cf. piauensis*
- Munim ○ Matavelli et al. (2015): specimens
○ Lima (2017): listing
○ Guimarães et al. (2018): locality
○ Oliveira et al. (2020): specimens
- Parnaíba
Periá ○ Matavelli et al. (2015): specimens
○ Abreu et al. (2019): listing
○ Brito et al. (2020): specimens
- Preguiças ○ Lima (2017): listing
○ Guimarães et al. (2018): locality
○ Abreu et al. (2019): listing
○ Brito et al. (2019): specimens
○ Brito et al. (2020): specimens
- Turiaçu ○ Linke & Staeck (1997): listing
○ Schindler (1998): listing

Crenicichla Heckel, 1840

C. brasiliensis (Bloch, 1792)

> *Perca brasiliensis* Bloch, 1792

Sparus nhoquunda Lacepède, 1802

Crenicichla menezesi Ploeg, 1991

type locality *menezesi*: Caieira

- records
Gurupi ○ Guimarães et al. (2020d): listing sub *C. cf. brasiliensis*
○ Guimarães et al. (2021a): specimens sub *C. cf. brasiliensis*
- Itapecuru ○ Barros et al. (2011): listing sub *C. menezesi*
○ Lima (2017): listing sub *C. menezesi*

- Mearim
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Guimarães et al. (2021b): listing
- Munim
 - Ribeiro et al. (2014): locality sub *C. menezesi*
 - Lima (2017): listing sub *C. menezesi*
 - Guimarães et al. (2018): locality
 - Nunes et al. (2019): listing
 - Oliveira et al. (2020): specimens
- Parnaíba
 - Ploeg (1991): type locality of *C. menezesi*
 - Ramos (2012): locality sub *C. menezesi*
 - Melo et al. (2017): specimens sub *C. menezesi*
 - Zanata et al. (2018): listing sub *C. menezesi*
- Periá
Preguiças
 - Brito et al. (2020): specimens
 - Lima (2017): listing sub *C. menezesi*
 - Guimarães et al. (2018): locality
 - Brito et al. (2019): specimens
 - Brito et al. (2020): specimens
- Litoral Ocid.
MA state
 - Ploeg (1991): paratype locality of *C. menezesi*
 - Kullander (2003): listing sub *C. menezesi*
 - Buckup & Teixeira (2007): listing sub *C. menezesi*

C. marmorata Pellegrin, 1904

Crenichichla brasiliensis var. *marmorata* Pellegrin, 1904

records

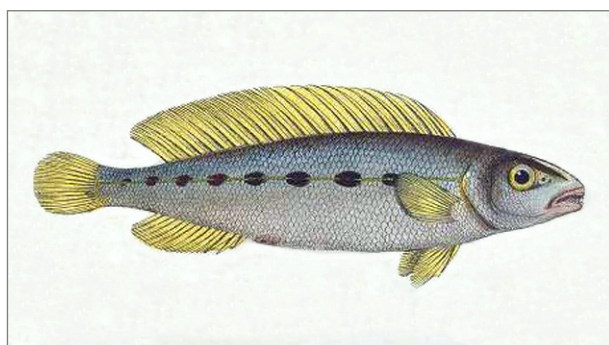
- Gurupi
 - Abreu et al. (2019): listing

collections

- Gurupi
 - MZUSP 1796
- Tocantins
 - MCP 52862
 - MNRJ 48747

remarks

This species needs verification as no direct match between literature and collection lots is available.



Crenichichla brasiliensis (Bloch, 1792) | Bloch, pl. 310, fig. 2



Geophagus surinamensis (Bloch, 1791) | Bloch, pl. 277, fig. 2

Geophagus Heckel, 1840

G. altifrons Heckel, 1840

Geophagus altifrons Heckel, 1840

records

- Itapecuru
 - Abreu et al. (2019): listing

collections

- Gurupi
 - MCP 21859
- Itapecuru
 - MCP 21861
- Maracaçumé
 - MCP 21868
- Tocantins
 - UNT 3909, 3910, 4018, 6455

remarks

This species needs verification as no direct match between literature and collection lots is available.

G. neambi Lucinda, Lucena & Assis, 2010

Geophagus neambi Lucinda, Lucena & Assis, 2010

records

- Tocantins
 - Lucinda et al. (2010): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

G. parnaíbae Staeck & Schindler, 2006

Geophagus parnaíbae Staeck & Schindler, 2006

type locality records	Richao Ponti near Timon, rio Parnaíba basin
Itapecuru	<ul style="list-style-type: none"> ○ Lucinda et al. (2010): specimens ○ Barros et al. (2011): listing ○ Abreu et al. (2019): listing
Mearim	<ul style="list-style-type: none"> ○ Deprá et al. (2014): specimens ○ Abreu et al. (2019): listing ○ Guimarães et al. (2020b): specimens sub <i>G. cf. parnaibae</i> ○ Guimarães et al. (2020d): listing sub <i>G. cf. parnaibae</i> ○ Guimarães et al. (2021a): specimens sub <i>G. cf. parnaibae</i> ○ Guimarães et al. (2021b): listing sub <i>G. cf. parnaibae</i>
Munim	<ul style="list-style-type: none"> ○ Abreu et al. (2019): listing ○ Nunes et al. (2019): listing
Parnaiba	<ul style="list-style-type: none"> ○ Staeck & Schindler (2006): type locality ○ Ramos (2012): locality ○ Deprá et al. (2014): specimens
Turiaçu	<ul style="list-style-type: none"> ○ Abreu et al. (2019): listing

G. surinamensis (Bloch, 1791)

- > *Sparus surinamensis* Bloch, 1791
- Sparus trimaculatus* Shaw, 1809

records

Itapecuru	○ Piorski et al. (1998): listing
Mearim	<ul style="list-style-type: none"> ○ Soares (2013): listing ○ Abreu et al. (2019): listing
Tocantins	○ Garavello et al. (2010): locality
Turiaçu	○ Abreu et al. (2019): listing
Litoral Ocid.	○ Abreu et al. (2019): listing
MA state	○ Latini et al. (2016): listing

collections

Mearim	○ MNRJ 14507
Parnaiba	○ MZUSP 87505
Tocantins	○ MNRJ 21295
	○ MZUSP 87263

remarks

This species needs verification as no direct match between literature and collection lots is available.

Satanoperca Günther, 1862***S. jurupari*** (Heckel, 1840)*Geophagus jurupari* Heckel, 1840

records

Gurupi	<ul style="list-style-type: none"> ○ Abreu et al. (2019): listing ○ Guimarães et al. (2020d): listing ○ Guimarães et al. (2021a): specimens
Itapecuru	○ Abreu et al. (2019): listing
Maracaçumé	○ Abreu et al. (2019): listing
Mearim	<ul style="list-style-type: none"> ○ Soares (2013): listing ○ Abreu et al. (2019): listing ○ Guimarães et al. (2020b): specimens ○ Guimarães et al. (2020d): listing ○ Guimarães et al. (2021a): specimens ○ Guimarães et al. (2021b): listing
Munim	<ul style="list-style-type: none"> ○ Ribeiro et al. (2014): locality ○ Abreu et al. (2019): listing ○ Nunes et al. (2019): listing
Parnaiba	○ Ramos (2012): locality
Periá	<ul style="list-style-type: none"> ○ Abreu et al. (2019): listing ○ Brito et al. (2019): specimens ○ Brito et al. (2020): specimens
Preguiças	<ul style="list-style-type: none"> ○ Abreu et al. (2019): listing ○ Brito et al. (2020): specimens
Tocantins	<ul style="list-style-type: none"> ○ Guimarães et al. (2020d): listing ○ Guimarães et al. (2021a): specimens
Turiaçu	○ Abreu et al. (2019): listing

tribus

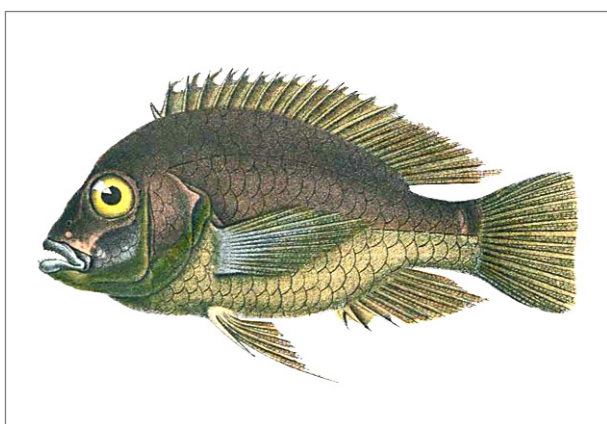
Cichlasomatini

Aequidens Eigenmann & Bray, 1894***A. tetramerus*** (Heckel, 1840)*Acara tetramerus* Heckel, 1840

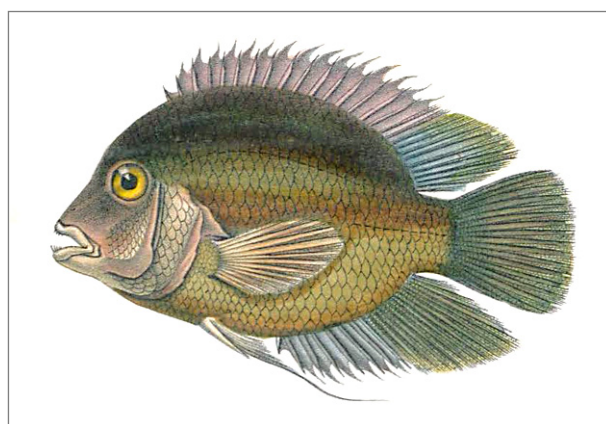
- > *Chromys uniocellata* Castelnau, 1855
- Aequidens stollei* Miranda Ribeiro, 1918
- Acaronia trimaculata* Allen, 1942

records

- Gurupi
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
- Itapecuru
 - Abreu et al. (2019): listing
- Mearim
 - Abreu et al. (2019): listing
 - Guimarães et al. (2020b): specimens
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens
 - Guimarães et al. (2021b): listing
- Munim
 - Ribeiro et al. (2014): locality
- Periá
 - Brito et al. (2020): specimens
- Preguiças
 - Abreu et al. (2019): listing
 - Brito et al. (2019): specimens
 - Brito et al. (2020): specimens
- Tocantins
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens



Chromys uniocellata Castelnau, 1855, jr. synonym of *Aequidens tetramerus* (Heckel, 1840) | Castelnau, pl. 6, fig. 1



Chromys appendiculata Castelnau, 1855, jr. synonym of *Heros efasciatus* Heckel, 1840 | Castelnau, pl. 7, fig. 3

Cichlasoma Swainson, 1839

C. orientale Kullander, 1983

Cichlasoma orientale Kullander, 1983

records

- Itapecuru
 - Piorski et al. (1998): listing
 - Barros et al. (2011): listing
 - Abreu et al. (2019): listing
- Munim
 - Matavelli et al. (2015): specimens
- Parnaíba
 - Matavelli et al. (2015): specimens
 - Melo et al. (2017): specimens
- Preguiças
 - Abreu et al. (2019): listing

C. sanctifranciscense Kullander 1983

Cichlasoma sanctifranciscense Kullander, 1983

records

- Parnaíba
 - Ramos (2012): locality
 - Zanata et al. (2018): listing

collections

- Parnaíba
 - MZUSP 36607

remarks

This species needs verification as no direct match between literature and collection lots is available.

C. zarskei Ottoni, 2011

Cichlasoma zarskei Ottoni, 2011

type locality Arari, Lagoa Malhada Grande, rio Mearim basin

records

- Itapecuru
 - Lima (2017): listing
 - Abreu et al. (2019): listing
- Mearim
 - Ottoni (2011): original description
 - Abreu et al. (2019): listing

- Koerber & Buckup (2019): correction of type locality
- Guimarães et al. (2020b): specimens
- Guimarães et al. (2020d): listing
- Guimarães et al. (2021a): specimens
- Guimarães et al. (2021b): listing
- Munim
 - Lima (2017): listing
 - Guimarães et al. (2018): locality sub *C. cf. zarskei*
 - Oliveira et al. (2020): specimens sub *C. cf. zarskei*
- Periá
 - Abreu et al. (2019): listing
 - Brito et al. (2020): specimens sub *C. cf. zarskei*
- Preguiças
 - Lima (2017): listing
 - Guimarães et al. (2018): locality sub *C. cf. zarskei*
 - Abreu et al. (2019): listing
 - Brito et al. (2020): specimens sub *C. cf. zarskei*

Laetacara Kullander, 1986**L. araguaiae** Ottoni & Costa, 2009*Laetacara araguaiae* Ottoni & Costa, 2009

records

- Tocantins
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

tribus

Heroini

Heros Heckel, 1840**H. efasciatus** Heckel, 1840*Heros efasciatus* Heckel, 1840> *Chromys appendiculata* Castelnau, 1855*Chromys fasciata* Castelnau, 1855*Uarus centrarchoides* Cope, 1872*Cichlasoma severum* var. *perpunctatum* Miranda Ribeiro, 1918

records

- Tocantins
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

Hypselecara Kullander, 1986**H. temporalis** (Günther, 1862)*Heros temporalis* Günther, 1862*Acara crassa* Steindachner, 1875*Heros goeldii* Boulenger, 1897*Cichlasoma hellabrunni* Ladiges, 1942

records

- Tocantins
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

Cichlidae - unconfirmed species for Maranhão state requiring a verification based on voucher material*Apistogramma caetei* Kullander, 1980 | in Linke & Staeck (1997) and Staeck (2003) for Turiaçu basin*Batrachops reticulatus* Heckel, 1840 | sub *Crenicichla reticulata* in Abreu et al. (2019) for Litoral Ocidental basin*Chromis brasiliensis* Quoy & Gaimard, 1824 | sub *Geophagus brasiliensis* in Abreu et al. (2019) for Itapecuru basin*Cychla labrina* Spix & Agassiz, 1831 | sub *Crenicichla labrina* in Abreu et al. (2019) for Mearim basin*Cychla monoculus* Spix & Agassiz, 1831 | sub *Cichla monoculus* in Ramos (2012) for Parnaíba basin**Cichlidae - species considered not to be distributed in Maranhão***Apistogramma eunotus* Kullander, 1981 | in Abreu et al. (2019) for Mearim basin | Buckup & Teixeira (2007)*Cichla ocellaris* Bloch & Schneider, 1801 | in Garavello et al. (2010) for Tocantins basin; in Abreu et al. (2019) for Mearim basin | Kullander & Ferreira (2006)*Crenicichla lepidota* Heckel, 1840 | in Abreu et al. (2019) for Mearim basin | Kullander (1982, 2003), Buckup & Teixeira (2007)

order

CYPRINODONTIFORMES

family

Rivulidae

Loureiro et al. (2018)

subfamily Rivulinae
tribus Melanorivulini

Anablepsoides Huber, 1992

A. urophthalmus (Günther, 1866)

Rivulus urophthalmus Günther, 1866

Rivulus poeyi Steindachner, 1876

Rivulus poeyi var. *flava* Brind, 1915

Rivulus urophthalmus var. *aurata* Schreitmüller, 1919

records

- Maracaçumé
 - Costa (2006): specimens sub *Rivulus urophthalmus*
 - Abreu et al. (2019): listing
- Munim
 - Matavelli et al. (2015): specimens sub *Rivulus auratus*
 - Lima (2017): listing
- Parnaíba
 - Matavelli et al. (2015): specimens sub *Rivulus auratus*
- Preguiças
 - Lima (2017): listing
 - Abreu et al. (2019): listing
- Tocantins
 - Costa (2006): specimens sub *Rivulus urophthalmus*
- MA state
 - Schreitmüller (1919): type locality of synonym
 - Costa (2003): listing sub *Rivulus auratus*
 - Costa (2007): listing sub *Rivulus auratus*

A. vieirai Nielsen, 2016

Anablepsoides vieirai Nielsen, 2016

type locality Riacho Joana, Duque Bacelar, Parnaíba basin,

records

- Mearim
 - Guimarães et al. (2020b): specimens sub *A. cf. vieirai*
 - Guimarães et al. (2020d): listing sub *A. cf. vieirai*
 - Guimarães et al. (2021a): specimens sub *A. cf. vieirai*
 - Guimarães et al. (2021b): listing sub *A. cf. vieirai*
- Munim
 - Guimarães et al. (2018): locality
 - Oliveira et al. (2020): specimens
- Parnaíba
 - Nielsen (2016): type locality
- Periá
 - Brito et al. (2020): specimens
- Preguiças
 - Guimarães et al. (2018): locality
 - Brito et al. (2019): specimens
 - Brito et al. (2020): specimens

Melanorivulus Costa, 2006

M. imperatrizensis Nielsen & Pinto, 2015

Melanorivulus imperatrizensis Nielsen & Pinto, 2015

type locality Imperatriz, village of Bananal, Tocantins basin

records

- Tocantins
 - Nielsen & Pinto (2015): type locality

M. parnaibensis (Costa, 2003)

Rivulus parnaibensis Costa, 2003

records

- Parnaíba
 - Costa (2016): specimens
- Preguiças
 - Brito et al. (2020): specimens sub *M. cf. parnaibensis*

subfamily Cynolebiinae

tribus Cynolebiini

Hypsolebias Costa, 2006

H. coamazonicus Costa, Amorim & Bragança, 2014

Hypsolebias coamazonicus Costa, Amorim & Bragança, 2014

type locality município de Araioses, seasonal pool close to the road between Pirangi and Araioses, Parnaíba river floodplains

records

- Parnaíba
 - Costa et al. (2014): type locality

- H. tocantinensis** Nielsen, Cruz & Babtista, 2012
Hypsolebias tocantinensis Nielsen, Cruz & Baptista, 2012
 type locality Campestre do Maranhao, temporary pool near
 rio Lajeado, Tocantins basin
 records
 Tocantins ○ Nielsen et al. (2012): type locality

Spectrolebias Costa & Nielsen, 1997

- S. inaequipinnatus** (Costa & Brasil, 2008)
Simpsonichthys inaequipinnatus Costa & Brasil, 2008
 type locality Cidelândia, seasonal pool in the right bank
 floodplains of the Tocantins River
 records
 Tocantins ○ Costa & Brasil (2008): type locality

family

Poeciliidae

subfamily

Poeciliinae

Lucinda & Reis (2005)

tribus

Poeciliini

Pamphorichthys Regan, 1913

- P. araguiensis** Costa, 1991
Pamphorichthys araguiensis Costa, 1991
 records
 Gurupi ○ Abreu et al. (2019): listing
 ○ Guimarães et al. (2020d): listing
 ○ Guimarães et al. (2021a): specimens
 Tocantins ○ Figueiredo (1997): specimens
 ○ Guimarães et al. (2020d): listing
 ○ Guimarães et al. (2021a): specimens

- P. hollandi** (Henn, 1916)
Limia hollandi Henn, 1916

- records
 Itapecuru ○ Pires & Reznick (2018): specimens
 Parnaíba ○ Melo et al. (2017): specimens
 ○ Pires & Reznick (2018): specimens
 Preguiças ○ Pires & Reznick (2018): specimens

Poecilia Bloch & Schneider, 1801

- P. mexicana** Steindachner, 1863
Poecilia mexicana Steindachner, 1863
Gambusia modesta Troschel, 1865
Gambusia plumbea Troschel, 1865
Poecilia chisoyensis Günther, 1866
Mollienesia sphenops altissima Hubbs, 1936
Mollienesia sphenops macrura Hubbs, 1935
Mollienesia sphenops ventynei Hubbs, 1935
 records
 Ilhas Maran. ○ Bragança et al. (2019): specimens
 remarks introduced exotic species

- P. reticulata** Peters, 1859
Poecilia reticulata Peters, 1859
 > *Girardinus guppii* Günther, 1866
Lebistes reticulatus var. *aurata* Stoye, 1935
Lebistes reticulatus var. *fredlini* Stoye, 1935
 records
 Ilhas Maran. ○ Nogueira & Luvizotto-Santos (2018): locality
 ○ Bragança et al. (2020): specimens
 remarks introduced exotic species

Girardinus guppii Günther, 1866
jr. synonym of
Poecilia reticulata Peters, 1859
Meyer, pl. 'Neue Zierfische'



P. sarrafae Bragança & Costa, 2011

Poecilia sarrafae Bragança & Costa, 2011

type locality pond near rio Parnaíba, Jandira

records

- Itapecuru ○ Lucinda & Reis (2005): specimens sub *Micropoecilia* sp.
○ Abreu et al. (2019): listing
- Mearim ○ Bragança & Costa (2011): specimens
○ Abreu et al. (2019): listing
○ Guimarães et al. (2020b): specimens
○ Guimarães et al. (2020d): listing
○ Guimarães et al. (2021a): specimens
○ Guimarães et al. (2021b): listing

- Munim ○ Lima (2017): listing
○ Oliveira et al. (2020): specimens
- Parnaíba ○ Bragança & Costa (2011): type locality
○ Melo et al. (2017): specimens

- Periá ○ Brito et al. (2020): specimens
- Preguiças ○ Lima (2017): listing
○ Abreu et al. (2019): listing

- Brito et al. (2019): specimens
○ Brito et al. (2020): specimens

remarks We follow Meyer (2015:263) in considering *Poecilia branneri* and *P. minima* to be distributed in the state of Pará.

P. vivipara Bloch & Schneider, 1801

Poecilia vivipara Bloch & Schneider, 1801

Poecilia schneideri Valenciennes, 1821

Poecilia surinamensis Valenciennes, 1821

Poecilia unimaculata Valenciennes, 1821

Molinesia fasciata Müller & Troschel, 1844

Molinesia surinamensis Müller & Troschel, 1844

Lebistes poecilioides De Filippi, 1861

Neopoecilia holacanthus Hubbs, 1924

records

- Mearim ○ Guimarães et al. (2020d): listing
○ Guimarães et al. (2021a): specimens
- Munim ○ Matavelli et al. (2015): specimens
○ Lima (2017): listing

- Parnaíba ○ Zanata et al. (2018): listing

- Periá ○ Abreu et al. (2019): listing
○ Brito et al. (2019): specimens
○ Brito et al. (2020): specimens

- Preguiças ○ Lima (2017): listing
○ Abreu et al. (2019): listing
○ Brito et al. (2020): specimens

Xiphophorus Heckel, 1848

X. maculatus (Günther, 1866)

Platypoecilus maculatus Günther, 1866

Platypoecilus maculatus var. *pulchra* Schreitmüller, 1910

Platypoecilus maculatus var. *nigra* Gerlach, 1912

Platypoecilus nigra Brind, 1914

Platypoecilus rubra Stansch, 1914

Platypoecilus maculatus var. *cyanellus* Meinken, 1934

records
 Ilhas Maran. o Ottoni et al. (2021): specimens
 remarks introduced exotic species

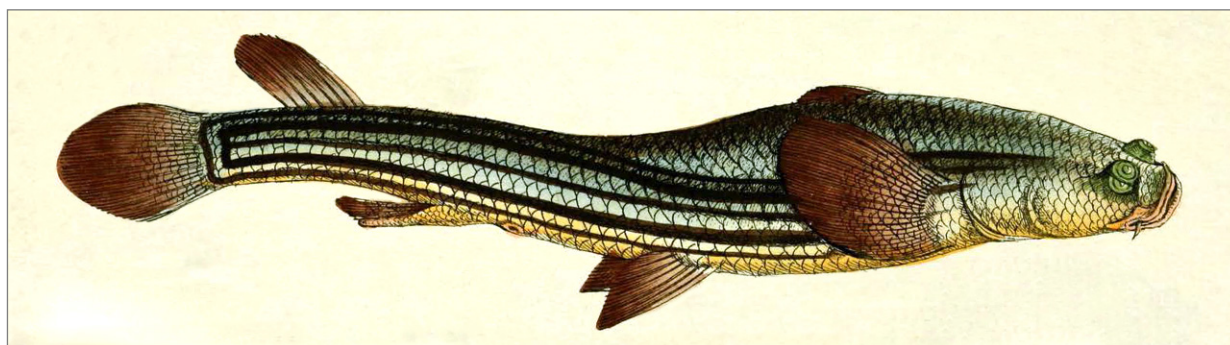
Poeciliidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Poecilia branneri Eigenmann, 1894 | in Abreu et al. (2019) for Mearim basin [see remarks in *P. sarrafae*]

family **Anablepidae**
 subfamily Anablepinae

Anableps Scopoli, 1777

- A. anableps** (Linnaeus, 1758)
Cobitis anableps Linnaeus, 1758
 > *Anableps tetrophthalmus* Bloch, 1794
Anableps surinamensis Lacepède, 1803
Anableps gronovii Valenciennes, 1846
Anableps lineatus Gronow, 1854
 records
 Itapecuru o Barros et al. (2011): listing
 Mearim o Soares (2013): listing
 o Guimarães et al. (2020d): listing
 o Guimarães et al. (2021a): specimens
 Preguiças o Brito et al. (2020): specimens
 Litoral Ocid. o Carvalho Neta & Castro (2008): locality
 o Watanabe et al. (2014): locality



Anableps tetrophthalmus Bloch, 1794, jr. synonym of *Anableps anableps* (Linnaeus, 1758) | Bloch & Schneider, pl. 76

order **BELONIFORMES**
 family **Belonidae**

Potamorrhaphis Günther, 1866

- P. guianensis** (Jardine, 1843)
Belone guianensis Jardine, 1843
Belone scolopacina Valenciennes, 1846
Belone taeniata Günther, 1866
 records
 Mearim o Abreu et al. (2019): listing
 Tocantins o Guimarães et al. (2020d): listing
 o Guimarães et al. (2021a): specimens

Pseudotylorus Fernández-Yépez, 1948

- P. microps** (Günther, 1866)
Belone microps Günther, 1866
Belone amazonica Steindachner, 1876
Deltatylorus guayoensis Martin, 1954

- records
 Parnaíba ○ Ramos (2012): locality
- collections
 Parnaíba ○ NUP 16361
 Tocantins ○ MCP 52864
 ○ MNRJ 39664
 ○ UNT 2323, 7672
- remarks
 This species needs verification as no direct match between literature and collection lots is available.

Belontiidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Esox marinus Walbaum, 1792 | sub *Strongylura marina* in Abreu et al. (2019) for Itapecuru basin

family **Hemiramphidae**

Hyporhamphus Gill, 1859

H. unifasciatus (Ranzani, 1841)

Hemiranphus unifasciatus Ranzani, 1841

Hemiramphus richardi Valenciennes, 1847

Hyporhamphus tricuspидatus Gill, 1859

Hemirhamphus poeyi Günther, 1866

records

- Mearim ○ Guimarães et al. (2020d): listing
 ○ Guimarães et al. (2021a): specimens

order **MUGILIFORMES**family **Mugilidae**

Mugil Linnaeus, 1758

M. brevisrostris (Miranda Ribeiro, 1915)

Querimana brevisrostris Miranda Ribeiro, 1915

records

- Ilhas Maran. ○ Menezes et al. (2015): specimens

M. curema Valenciennes, 1836

> *Mugil gaimardianus* Desmarest, 1831

Mugil curema Valenciennes, 1836

Mugil petrosus Valenciennes, 1836

Myxus harengus Günther, 1861

Mugil guentherii Gill, 1863

Mugil charlottae Steindachner, 1902

Mugil metzelaari Chabanaud, 1926

Myxus splendens Mohr, 1927

records

- Mearim ○ Guimarães et al. (2020d): listing
 ○ Guimarães et al. (2021a): specimens
- Preguiças ○ Abreu et al. (2019): listing
 ○ Brito et al. (2019): specimens
 ○ Brito et al. (2020): specimens
- Ilhas Maran. ○ Menezes et al. (2015): specimens

M. incilis Hancock, 1830

Mugil incilis Hancock, 1830

Mugil guentheri Steindachner, 1864

Mugil xinguensis Steindachner, 1907

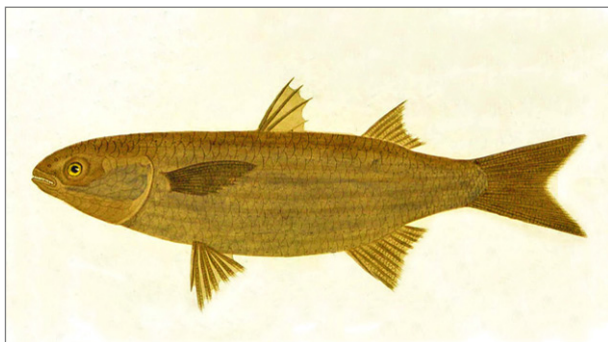
Myxus goniocephalus Mohr, 1927

Myxus calancae de Beaufort, 1940

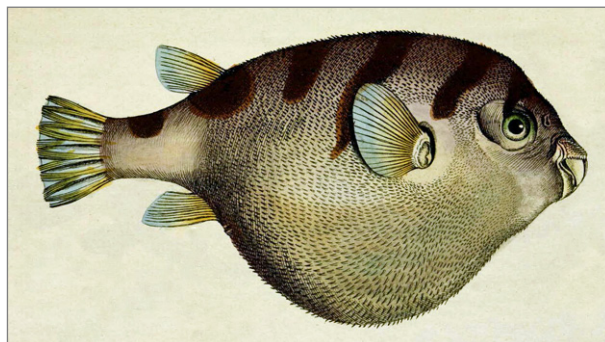
records

- Itapecuru ○ Barros et al. (2011): listing
 ○ Abreu et al. (2019): listing
- Mearim ○ Menezes et al. (2015): specimens

Ilhas Maran. ○ Menezes et al. (2015): specimens



Mugil gaimardianus Desmarest, 1831, jr. synonym of *Mugil curema* Valenciennes, 1836 | Desmarest, pl. 109



Colomesus psittacus (Bloch & Schneider, 1801)
Bloch & Schneider, p. 95

order **TETRAODONTIFORMES**

family **Tetraodontidae**

Colomesus Gill, 1884

C. psittacus (Bloch & Schneider, 1801)

> *Tetrodon psittacus* Bloch & Schneider, 1801

Tetrodon fasciatus Bloch & Schneider, 1801

Tetrodon semispinosus Fréminville, 1813

records

Mearim

○ Guimarães et al. (2020d): listing

○ Guimarães et al. (2021a): specimens

order **“PERCIFORMES”** (sedis mutabilis)

family **Lutjanidae**

subfamily Lutjaninae

Lutjanus Bloch, 1790

L. jocu (Bloch & Schneider, 1801)

Anthias jocu Bloch & Schneider, 1801

Mesoprion litura Cuvier, 1828

records

Mearim

○ Guimarães et al. (2020d): listing

○ Guimarães et al. (2021a): specimens

family **Gerreidae**

Eucinostomus Baird & Girard, 1855

E. argenteus Baird & Girard, 1855

Gerres aprion Cuvier, 1829

Eucinostomus argenteus Baird & Girard, 1855

records

Preguiças

○ Brito et al. (2020): specimens sub *E. cf. argenteus*

remarks

This species needs verification as the collection lots mentioned in literature could not be determined unambiguously (published as ‘aff.’, ‘cf.’, or ‘sp.’).

family **Haemulidae**
 subfamily Plectorhinchinae

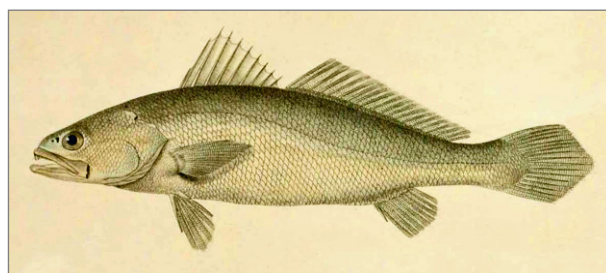
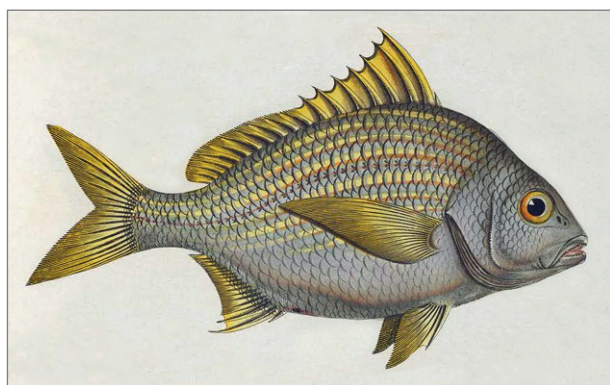
Genyatremus Gill, 1862

G. luteus (Bloch, 1790)

- > *Lutjanus luteus* Bloch, 1790
- Grammistes hepatus* Bloch & Schneider, 1801
- Diagramma cavifrons* Cuvier, 1830
- Diagramma goeldii* Boulenger, 1897

records

- Mearim
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens



Otolithus toeroe Cuvier, 1830, jr. synonym of *Cynoscion acoupa* (Lacepède, 1801) | Cuvier & Valenciennes, pl. 103

Genyatremus luteus (Bloch, 1790) | Bloch, pl. 247

family **Sciaenidae**

Cynoscion Gill, 1861

C. acoupa (Lacepède, 1801)

- Cheilodipterus acoupa* Lacepède, 1801
- Johnius thorax* Bloch & Schneider, 1801
- Lutjanus cayanensis* Lacepède, 1802
- Otolithus rhomboidalis* Cuvier, 1829
- > *Otolithus toeroe* Cuvier, 1830
- Paralarimus patagonicus* Fowler & Bean, 1923
- Cynoscion maracaiboensis* Schultz, 1949

records

- Mearim
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

Micropogonias Bonaparte, 1831

M. furnieri (Desmarest, 1823)

- Umbrina furnieri* Desmarest, 1823
- Sciaena opercularis* Quoy & Gaimard, 1825
- Micropogon argenteus* Cuvier, 1830
- > *Micropogon lineatus* Cuvier, 1830
- Corvina adusta* Agassiz, 1831
- Corvina crawfordi* Regan, 1903
- Sciaena unicolorata* Larrañaga, 1923
- Micropogon patagonensis* MacDonagh, 1931
- Micropogon barreto* MacDonagh, 1934
- Ophioscion woodwardi* Fowler, 1937
- Micropogon manni* Moreno, 1970

records

- Mearim
 - Guimarães et al. (2020d): listing
 - Guimarães et al. (2021a): specimens

Pachyurus Agassiz, 1831**P. schomburgkii** Günther, 1860*Pachyurus schomburgkii* Günther, 1860

records

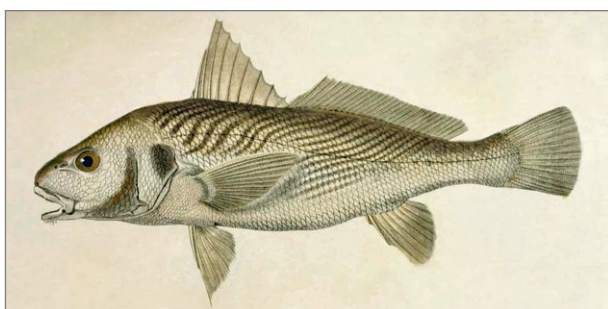
Tocantins ○ Garavello et al. (2010): locality

collections

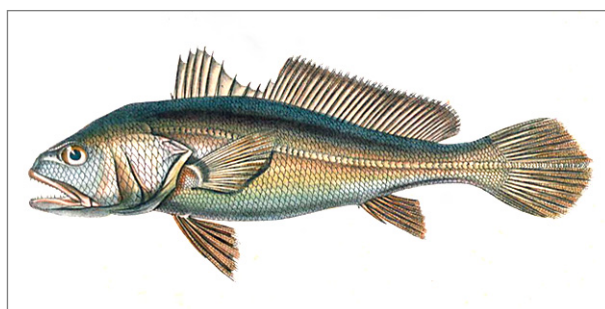
Tocantins ○ MZUSP 87273

remarks

This species needs verification as no direct match between literature and collection lots is available.



Micropogon lineatus Cuvier, 1830, jr. synonym of *Micropogonias furnieri* (Desmarest, 1823) Cuvier & Valenciennes, pl. 119



Johnius amazonicus Castelnau, 1855, jr. synonym of *Plagioscion squamosissimus* (Heckel, 1840) Castelnau, pl. 4, fig. 1

Plagioscion Gill, 1861**P. squamosissimus** (Heckel, 1840)*Sciaena squamosissima* Heckel, 1840> *Johnius amazonicus* Castelnau, 1855*Johnius crouvina* Castelnau, 1855*Plagioscion francisci* Steindachner, 1917*Plagioscion squamosissimus iquitensis* Nakashima, 1941

records

Itapecuru ○ Barros et al. (2011): listing

○ Abreu et al. (2019): listing

Mearim ○ Soares (2013): listing

○ Abreu et al. (2019): listing

○ Guimarães et al. (2020d): listing

○ Guimarães et al. (2021a): specimens

Parnaíba ○ Ramos (2012): locality

Stellifer Oken, 1817**S. naso** (Jordan, 1889)*Stelliferus naso* Jordan, 1889

records

Mearim ○ Guimarães et al. (2020d): listing

○ Guimarães et al. (2021a): specimens

S. rastrifer (Jordan, 1889)*Stelliferus rastrifer* Jordan, 1889

records

Mearim ○ Guimarães et al. (2020d): listing

○ Guimarães et al. (2021a): specimens

Sciaenidae - unconfirmed species for Maranhão state requiring a verification based on voucher material

Perca fourcroyi Lacepède, 1802 | sub *Pachypops f.* in Barros et al. (2011) and Abreu et al. (2019) for Itapecuru basin
Pseudosciaena surinamensis Bleeker, 1873 | sub *Plagioscion s.* in Garavello et al. (2010) for Tocantins basin

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